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SOME PROBLEMS IN PSORIASIS*

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We have perhaps been too ready to admit that psoriasis is an incurable disease of unknown aetiology, and to console ourselves with the suggestion that it only affects the healthy. I doubt if any of these statements are true. Whether they are true or not, it is a fact that psoriasis, one of the commonest of skin affections, imposes on the sufferer a burden which only too often he carries through life, and which is readily understood and implied by the term "European lepra," its name in olden times. The disorder merits our constant attention and untiring effort in its relief, and it is obviously fatuous to dismiss it as incurable when we all know that if the patient can be transferred to a hot and sunny climate the psoriasis spontaneously disappears.

In considering some of the problems associated with this subject, and in particular problems of treatment, I must pass over the ordinary and accepted facts. I would, however, like first to deal with one or two points which seem to me to merit attention. We are all very familiar with the silvery scaling as a clinical feature of psoriasis, and with the characteristic distribution on elbows, scalp, knees, and extensor surfaces. It so happens, however, that many cases of psoriasis come to us for the first time having had some treatment with ointment which has removed most of the scaling, and upon occasion psoriasis does affect other than the typical sites. Patients with a recent eruption on an atypical site may not mention, or may not associate it with, old-standing chronic lesions on typical areas, which may thus be overlooked.

More important than the silvery scaling is, in my opinion, the colour of psoriasis, which is an admixture of red and brown—something approaching salmon-red—and the demarcation of the lesions themselves. No matter what variation the eruption of psoriasis may take, these two features are fairly constant. There are only two or three other common scaling erythemata which appear as generalized eruptions—namely, seborrhoeic dermatoses, pityriasis rosea, and squamous eczematous eruptions—and none of them presents those two characteristics. It is therefore quite easy to make a diagnosis of psoriasis in the vast majority of cases even in the absence of the typical scaling and the typical sites.

Problems in Diagnosis

Though psoriasis is commonly symptomless the majority of patients, if questioned, will admit to a certain amount of itching, particularly when they are warm or are in bed. In a proportion of cases, probably something approaching 30 per cent., itching may be very severe. This feature would seem to depend largely on the temperament and nervous make-up of the subject rather than the psoriasis itself, except in relation to psoriasis of the perineum and various mixed reactions, to which I will refer later.

Attention must be drawn to the difficulties in diagnosing psoriasis when it involves certain particular sites. In the majority of cases psoriasis will exist elsewhere than upon the atypical sites and the diagnosis will be clear, but in rare instances limited sites alone may be involved and may cause some difficulty. Sometimes a patient, not associating an old chronic eruption on elbows and knees with a recent affection of the face or perineum, may not mention the chronic trouble, thus unintentionally misleading the doctor.

Scalp.—Commonly psoriasis of the scalp is more readily diagnosed by palpation than by inspection. The eruption, consisting of well-demarcated thickly scaling lesions, feels like a miniature mountain range, and quite unlike any other scalp affection. Occasionally, however, psoriasis involves the whole scalp, in which case there is a diffuse scaling erythema which may only with difficulty be differentiated from a simple scurf. Careful examination may disclose at the hair margins the colour and characteristic demarcation of the eruption, but this may be absent. With psoriasis elsewhere, there is no question but that such a condition would also be psoriasis, but should the affection be limited to the scalp then difficulties may arise. I think it is quite wise to assume that any chronic, dry, scaling scurfiness of the scalp which does not readily respond to ordinary anti-seborrhoeic measures, such as sulphur and salicylic ointment, or perchloride and resorcin lotion and spirit shampoos, is likely to be psoriasis, or, at all events, may respond to anti-psoriatic treatment.

Face.—Contrary to most teaching and most textbooks, it is my experience that psoriasis of the face is very common. Whatever the explanation of this may be, and whether or not it is a peculiarity of the district, I never have the slightest difficulty in producing cases of facial psoriasis to demonstrate to students. It is wise to bear this in mind, for it has not been uncommon in the past for practitioners to console their patients by saying that the affection never involves the face. Psoriasis of the face rarely suggests that diagnosis to the uninitiated. It commonly has the appearance of seborrhoeic dermatitis or of lupus erythematosus. Hardly ever does one see the typical heaped silvery scaling even in cases which have received no ointment therapy. The colour and the demarcation of the lesions are not always present, but I have never to my knowledge seen psoriasis of the face without its occurrence elsewhere.

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Flexures.—Psoriasis affecting axillae, perineum, and under the breasts is not very uncommon, especially in seborrhoeic subjects. It is never covered with scales, but merely presents the salmon-red demarcated plaques which sometimes become slightly eczematous and moist or fissured. Psoriasis of these sites is usually very irritable, and, particularly in the perineum, it may exist with little psoriasis elsewhere. The use of strong applications in these sites is limited; and this affords one of the occasions when I think it justifiable to employ *x* rays for psoriasis, the response as a rule being good. With psoriasis of the perineum it is most important to exclude any local irritant factors, particularly sugar in the urine, as a provocative cause of the eruption. In connexion with this one may mention psoriasis of the glans penis. Here the affection shows no scaling, and the red, well-demarcated thickened plaques can easily be confused with the so-called psoriasiform carcinoma, an intra-epidermal non-penetrating growth. It may be quite impossible to differentiate such a carcinoma from psoriasis clinically until there is evidence of psoriasis elsewhere. Even histological examination may present considerable difficulties to the expert.

Palms.—Discrete nummular psoriasis of palms and soles very closely simulates a secondary syphilitic eruption of these sites. There is the same sense of infiltration, the same colour, and both may be associated with a widespread eruption and may have followed a throat infection. Examination of lesions elsewhere on the body, however, usually makes the diagnosis clear.

Nails.—I think it is quite impossible to diagnose psoriasis of the nails unless there is evidence of psoriasis on other parts of the body. Any dystrophy or a ringworm or other infection of the nails may exactly simulate a psoriatic change. Pitting and distortion, thickening and opacities, and even heaping up of the nail-bed may occur in any of these states, but the pin-point pitting and the heaping up of the nail-bed causing eversion of the distal end of the nail are rather more characteristic of psoriasis than of other affections. Psoriasis almost invariably affects all nails of the hands and feet, as do most dystrophies; but infection, as in ringworm, more frequently involves a limited number of nails, no matter how long the infection may have existed. Unless the eruption exists elsewhere the most careful search for fungus should be made by nail-scraping and examination in liquor potassae. Since the disturbance which produces a psoriasis of the nails originates in the nail matrix it is obvious that local applications cannot be of much service. While internal remedies are of some limited value, *x* rays are undoubtedly of much use in treatment.

Mixed Psoriatic Reactions

Though generally occurring as a simple and pure reaction, psoriasis may upon occasion cross with other reactions such as the toxic erythematous, seborrhoeic, lichenoid, and eczematoid. It is my experience that such mixed reactions nearly always form a type of psoriasis very difficult to treat and one that tends readily to relapse.

TOXIC ERYTHEMATOUS PSORIASIS

This type of reaction is often widespread; it particularly affects the extremities, including the hands and feet, face and ears, and on casual examination suggests an ordinary toxic erythema of the multiforme type. Careful examination reveals that the eruption varies from a variety of lesion which appears to be pure and simple toxic erythema in everything except its persistence to lesions which, commonly occurring on the typical psoriatic sites, are true psoriasis with the characteristic silvery scale and demarcation. These cases often follow some acute infective process, particularly an infection of the upper respiratory tract. Unlike an ordinary toxic reaction, they persist until taken seriously in hand, and even then are most difficult to treat. The lesions on the extremities often simulate those of an acute lupus erythematosus, and it is interesting that some of these appear to be helped by gold therapy. These cases should always be treated in bed, and should receive mild local applications. A search for any focus of infection which may have been responsible for the eruption should be made, and if possible it should be eradicated.

SEBORRHOEIC PSORIASIS

This type of mixed reaction is more easily recognized, and has received more attention in the literature, particularly the French. It would seem that in these cases we are dealing with patients who have a tendency to react by psoriasis and in whom the provocative cause of the eruption has been a seborrhoeic outbreak. Though psoriasis commonly occurs on the usual sites it also in these cases involves the typical seborrhoeic sites, particularly the head, mid-chest and back, axillae, perineum and flexures, palms, and soles. Such cases are not particularly resistant to treatment, and should be attacked along the usual lines. Upon occasion, however, one meets with lesions of the so-called "seborrhoeid" type—usually few in number, well demarcated, and lichenified—which do not develop the characteristic scaling of psoriasis and which may be most resistant to treatment.

LICHENOID PSORIASIS

This type is in my opinion a cross-reaction between psoriasis and lichen planus. Section of a lesion histologically will show parts with the characteristics of psoriasis and other parts with the characteristics of lichen planus. The sites tend rather to be those of lichen planus —the inner thighs, the lower legs and forearms, both flexor and extensor—but this form of psoriasis is in my experience one of the most difficult with which to deal. It is, I believe, very uncommon, and in most cases may with confidence be diagnosed as one or other of the two affections at different times; but long observation convinces me that the reaction is really one of the mixed type. Treatment should, in my opinion, be essentially directed towards the psoriatic element, but I have sometimes found it quite impossible to clear these cases.

ECZEMATOID PSORIASIS

It is natural that psoriasis, if it is irritable, should become eczematized by rubbing and scratching, and this does sometimes happen. The eczematization is usually of the chronic type—lichenification—and the superimposition of the lichenification on the psoriasis is fairly obvious. The combination does not, however, present any difficulties in treatment so long as some internal sedative-tonic measures are adopted and local treatment at first is mild. I believe, however, that what we have in recent years been describing as "pustular psoriasis" is in fact a mixed psoriasis and acute eczematous reaction. This is a much more complicated and difficult problem, and calls for very careful approach and treatment.

In the acute cases the ordinary psoriatic eruption on trunk and limbs will on close examination disclose in places groups of minute pin-head-sized lakes of sterile pus, but the feature is most in evidence on the hands and feet, where it is rather in the nature of a pustular pompholyx—some lesions being vesicular and some pustular, some pin-head-sized and others larger, but the whole

associated with and merging into a scaling erythema, and the pompholyx lesions healing to leave brown macules which eventually clear without scarring.

In the chronic cases the eczematous element, which is still occasionally vesicular but mostly pustular, tends to consist of more uniformly pin-head-sized lakes, to be confined to palms and soles, and more particularly to involve thenar and hypothenar eminences. There is often some scaling erythema in these sites, but quite half the cases show no typical psoriasis elsewhere, and it is still a matter of dispute whether they are all examples of the same type of reaction and whether they are related to psoriasis or not. We may for the present call them "persistent pustular pompholyx," but I believe they are a mixed psoriasis-and-eczema reaction. The cause of such a reaction may upon occasion be too vigorous local treatment, but more often it is the reaction to some internal disturbance. In a proportion of cases—perhaps 30 per cent.—it appears to be the toxaemia from an acute or chronic infection, usually of the upper respiratory tract, particularly tonsillitis and gingivitis. The pustular psoriatic reactions from acute infection, in my experience, resolve readily with rest in bed, attention to the acute infection, and mild anti-psoriatic measures. The chronic reactions which often affect only palms and soles are not greatly or permanently influenced by local treatment—which again must be mild—but often clear with removal of a chronic infection if such can be found, as in the tonsils. A number of these chronic cases, however, are, I believe, dependent upon constitutional disturbances other than toxic, such as nervous and endocrine influences, and may be quite incurable.

Aetiological Factors in Psoriasis

There is no evidence that psoriasis is an infection, and very little, I think, to support the view recently expressed in Germany that it is due to a disturbance of fat metabolism. It is as true to say that we do not know the cause of psoriasis as it is to say that we do not know the cause of any other constitutional reaction—for example, eczema or dyspepsia. We know, in the first place, that the tendency to psoriasis is often inherited; we also know that it disappears during severe illnesses from organic disease or with protein-shock therapy. It is more important to remember that it tends to be provoked by minor maladies such as the acute specific fevers, tonsillitis, influenza, or "colds in the head." Pregnancy and nervous shock are other common causes of acute outbreaks of psoriasis, while the more chronic states of physical and nervous debility, as well as the vague influences of puberty and the menopause, regularly determine the onset of exacerbations of this affection. It is very rarely that there is not some obvious precipitating cause for psoriasis, but, once provoked, the reaction tends to persist, like most skin reactions. When the patient is in the psoriatic state external injury will also bring out psoriasis at the site of injury.

All these features are characteristic of constitutional reactions in general, and to them may be added the very definite susceptibility of psoriasis to suggestion and to climatic influences, particularly to sunlight. I repeatedly observe the influence of suggestion in these cases, and may cite as a good example a very extensive case, approximating in part to the pustular type, in a patient who had been affected for nine months. Ten days after I saw him I arranged to admit him to hospital as being valuable for teaching purposes, and requested his doctor to make no alteration in treatment. On admission the patient was practically clear, and attributed his improvement to the ointment which he imagined I had prescribed. The importance of this aspect lies in the fact that one may obviously do harm by telling a patient with psoriasis that his condition is incurable and that treatment is useless. The susceptibility to climatic influences is more important, for it is well known that in very warm and sunny climates psoriasis will disappear, and will not reappear so long as the patient remains in that climate. It is obviously absurd, therefore, to suggest that treatment is useless.

Treatment of Psoriasis

Treatment of any constitutional disorder must take seriously into consideration the make-up of the patient and his environment. The highest degree of physical and mental health is desirable and should be aimed at, and excesses and variations from the normal should as far as possible be avoided. All this is very true of psoriasis, but the need for the eradication of foci of sepsis, especially about the upper respiratory tract, must be emphasized. These general aspects of treatment I will leave, and will now deal with the particular.

In Leeds we have two routine lines of treatment, sometimes instituted separately and sometimes in combination. The first is by tar baths and sunlight, and this is the more cleanly and pleasant line of attack. A tar bath merely consists of the addition of 4 oz. to 8 oz. of liq. picis carb. to thirty gallons of water, in which the patient soaks for ten minutes or a quarter of an hour. This is immediately followed by an exposure of the whole body to the ultra-violet lamp, starting usually with a dosage of one minute at three feet distance to the front and the back. The dosage is very gradually increased, usually by about a minute a week, and rarely exceeds a maximum of four or five minutes. The addition of a little heat therapy, as from a sollux lamp, at the same time probably increases the efficiency of the treatment, and certainly adds considerably to the comfort. With this treatment patients are advised to use a small amount of the following ointment at night-time to remove scale.

℞	Acid. salicylic.	... gr. v
	Hydrarg. ammon.	... gr. x
	Liq. picis carb.	... ♏ xxx
	Paraff. moll.	ad ʒ j

It is in my opinion important that this treatment should be regular and be undertaken daily; in the majority of cases the psoriasis is cleared up in the matter of a few weeks, sometimes in less than two weeks.

The second line of treatment is by cignolin (dioxyanthranol, a synthetic chrysarobin substitute). Here all the psoriasis present, from head to feet, is thoroughly inuncted twice daily with the following ointment:

℞	Cignolin	... gr. j
	Acid. salicylic.	... gr. v
	Hydrarg. ammon.	... gr. x
	Liq. picis carb.	... ♏ xxx
	Paraff. moll.	ad ʒ j

This ointment rapidly deteriorates, and must be dispensed afresh every few days. My routine is to prescribe it afresh every third day, increasing the amount of the cignolin by 1 grain each time up to 4 grains or sometimes 6 grains, depending on the reaction.

This treatment is most rapidly and thoroughly effective when the patient is kept at rest in bed or at least in a dressing-gown existence, so that he is constantly soaked in the ointment. Even baths may be avoided with advantage, or be taken only at intervals of four or five days. The effect of treatment is to produce a reddening and

discoloration of the skin from the cignolin, the colour being a lilac tint; the garments in contact with the ointment are also lightly stained. If the patient cannot be confined to his room then the ointment therapy is applied thoroughly at night and he has a bath in the morning. Under ideal conditions this method will usually clear up an attack of psoriasis in two to three weeks. If this treatment is combined with light therapy the patient has a morning bath, followed by exposure to the ultra-violet lamp and by the inunction.

So much for the particular treatment of the attack of psoriasis. More important than this, however, is the further treatment directed towards preventing relapses, for this is of greater benefit to the chronic sufferer than the temporary clearance of the eruption. In my experience it is of the utmost value for psoriatics to have a *daily* exposure to the ultra-violet lamp after the ordinary toilet bath throughout the year, or at least from September to May, and it is obviously most desirable that the patient should himself possess a lamp in his own home, so that the treatment may be added to his ordinary toilet routine without imposing any serious burden upon him. A small type of lamp is usually sufficient for this purpose, and though the cost is moderately high the expenditure is, it seems to me, a wise one in view of the fact that we are dealing with a malady which is likely to be an affliction for many years, if not for life. The effect of this addition to the toilet routine is often to keep the patient completely clear of psoriasis. Even if this ideal is not attained the state of affairs is so vastly improved that life has an entirely different aspect for the chronic sufferer. It is undoubtedly the next best thing to being able to live in those climates where psoriasis does not exist.

If for reasons of expense or other circumstances this routine cannot be adopted an occasional clearance by a course of cignolin treatment, such as that indicated, is the most that can be done. In very obstinate cases it is sometimes helpful to give mild protein-shock therapy such as whole-blood injections, or intravenous injections of T.A.B., ten to twenty millions, on two or three occasions, at intervals of about five days. In some hands the use of intravenous gold injections is said to have been beneficial, but I have found it only occasionally of value. I very commonly, however, put patients with psoriasis on 1/8 grain of luminal, twice daily, after food, for long periods at a time, and believe that it does much to reduce the reactive tendency of the skin.

There are two further problems which these patients often put to the physician. They first ask, "Can you cure me, doctor?" to which I think the appropriate reply is, "No; but you can cure yourself by understanding the nature of the ill and the various remedies at your disposal." The next question is, "Should I marry?" and my own view is that psoriasis should not be regarded as a bar to matrimony, since it need not necessarily be passed on to the offspring, and, if passed on, can be adequately treated.

The Central Association for Mental Welfare has arranged a course for persons engaged in the training of mental defectives in occupation centres, institutions, or mental hospitals, and for home teachers, to be held in London from July 4 to 23; also a course for officers of local authorities and local associations for mental welfare engaged in the ascertainment and supervision of defectives, during the same period. Full particulars of both courses may be obtained from the educational secretary, Central Association for Mental Welfare, 24, Buckingham Palace Road, London, S.W.1.

THE STATE OF THE HEART IN GALL-BLADDER DISEASE

A PERSONAL INVESTIGATION

BY

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In considering this subject it is unfortunate that space does not permit of even a survey of the literature, but all the references are appended in the bibliography and the conclusions arrived at from their study are here presented:

1. Myocardial degeneration is not infrequently found in cases of cholecystitis and/or cholelithiasis.

2. The clinical manifestations of gall-bladder disease may closely simulate disease of the heart, particularly coronary artery disease, and the reverse is equally true.

3. The cardiac condition has been benefited by surgical treatment of the gall-bladder lesion in a proportion of the cases. In assessing these cases it is difficult to decide whether to attribute this amelioration of the cardiac manifestations to the removal of the noxious influence of a pathological gall-bladder or to the beneficial effect of the period of enforced rest in bed, a measure which must always favour a return to normal on the part of the myocardium.

4. Although a few examples of infective endocarditis occurring in cases of gall-bladder infection have been reported, there has been no unequivocal proof that the endocarditis was secondary to the invasion of the gall-bladder with pathogenic organisms, and any murmurs developing during an attack of cholecystitis are to be regarded as belonging to the so-called "functional" class, dependent upon dilatation of the chambers of the heart, and thus, indirectly, on the state of the myocardium.

5. Associated factors—for example, obesity, age, etc.—must be considered in assessing the possibility of any direct relation between gall-bladder lesions and heart disease.

6. The theory of submural streptococcal infection arising in the gall-bladder substance and thence spreading to the myocardium via the lymphatic and blood channels, as suggested by Rosenow and supported by D. P. D. Wilkie and others, constitutes the most generally accepted explanation of the relation between lesions of the gall-bladder and heart.

7. There is some evidence to suggest an increased incidence of lesions of the coronary arteries in the subjects of gall-bladder disease.

8. The operative treatment of gall-bladder lesions, by cholecystectomy where possible, should not be delayed long, and is not contraindicated by the presence of a cardiac lesion provided the state of the heart is compatible with the patient surviving the operation.

The Present Investigation

This investigation is based on a personal study of sixty-five consecutive cases of gall-bladder disease admitted to the wards of Mill Road Infirmary, Liverpool. Although the study was essentially a clinical one, Graham's cholecystography, electrocardiograms, the urea clearance test, and the Wassermann test were routine measures. The assessment of the condition of the cardiovascular system was arrived at after consideration of the symptoms of cardiac insufficiency, clinical and electrocardiographic findings, and the patient's response to a standardized exercise test. The diagnosis of gall-bladder disease was based on the symptoms and clinical findings, together with evidence of gall-bladder dysfunction as detected by

cholecystography. In cases in which adequate absorption of orally administered dye from the stomach was in doubt cholecystography was repeated after the intravenous introduction of the radiologically opaque medium.

Operation was advised in the following types of case: (1) Cases with symptomatic, clinical, and radiological evidence of a pathological gall-bladder: in these cases slight or moderate myocardial damage was not considered a contraindication to operation. (2) Cases with symptomatic and clinical evidence of myocardial damage which on investigation revealed clinical and/or radiological evidence of a pathological gall-bladder. Gross cardiac failure, extreme old age, or severe respiratory disease constituted contraindications to operation in both groups of cases. Cholecystectomy under general anaesthesia was the operation of choice. The diagnosis of gall-bladder disease was confirmed after operation by macroscopic and microscopical examination of the excised gall-bladders. All cases treated by surgery were seen from time to time during convalescence and received full examination at the beginning of the fourth week after operation, just before discharge. The patients were followed up, the period elapsing between admission to hospital and the follow-up examination varying in individual cases from two months to over a year.

Analysis of Cases

The series consisted of sixty-five cases of disease of the gall-bladder and biliary tract. The females numbered fifty-eight and the males seven. Fifty of the patients had a clinical cardiac lesion, while the remaining fifteen revealed no clinical evidence of a departure from normal in the state of the cardiovascular system. The incidence of cases per decade and the sex distribution are shown in Table I.

TABLE I.—*Showing the Relationship of Age, Sex, and Cardiac Involvement in 65 Cases of Gall-bladder Disease*

Decade	Cardiac Lesion		No Cardiac Lesion	
	Female	Male	Female	Male
3rd	4	0	1	0
4th	5	1	5	0
5th	13	1	3	0
6th	11	3	3	0
7th	7	1	3	0
8th	3	1	0	0
Total . .	43	7	15	0

It is common knowledge that obesity is often present in cases of gall-bladder disease, and this factor was considered of importance as a possible explanation of any myocardial insufficiency in the cases of this series. Of the sixty-five patients, twenty-four were regarded as obese, by estimating such factors as sex, age, height, and weight. Table II shows that the incidence of cardiac lesions occurring in cases of gall-bladder disease is greater than the incidence of obesity in the same series. This suggests that the obesity, if a factor, is not the whole explanation of the presence of cardiac lesions in these cases of gall-bladder disease.

TABLE II.—*Showing the Incidence of Obesity and Cardiac Lesions in 65 Cases of Gall-bladder Disease*

Decade	Obesity and Cardiac Lesion	No Obesity, but Cardiac Lesion	Obesity with no Cardiac Lesion	No Obesity or Cardiac Lesion
3rd	2	2	0	1
4th	2	4	0	5
5th	7	7	0	3
6th	5	9	2	1
7th	2	6	2	1
8th	2	2	0	0
Total . .	20	30	4	11

Fifty cases were followed up or were under observation until death occurred. Operation was performed in forty, and thirteen of these had cardiac manifestations. Cholecystectomy was carried out in thirty-six; cholecystotomy in two; one had exploration and drainage of the common bile duct, and one, a case of carcinoma of the common bile duct, had a cholecysto-duodenostomy performed. The latter two cases of disease of the common bile duct presented no manifestations of heart disease. Twenty-eight of the thirty-six cases treated by cholecystectomy were completely cured of the symptoms referable to the gall-bladder; four cases were improved in this respect and four patients died. Table III and Table IV demonstrate the condition of the heart in twenty-seven operated cases and in eighteen unoperated cases, respectively, of gall-bladder disease with cardiac manifestations, as determined at the follow-up examination. As even mild cardiac decompensation was not considered to be a contraindication to operation in this series the numerical difference between the cases showing improvement after operation and those showing improvement after the subsidence of the acute gall-bladder infection, but in which operation was not performed, assumes significance, as the unoperated cases did not necessarily present cardiac manifestations of such severity as to preclude any possibility of amelioration. The presence of obesity

TABLE III.—*Showing the Condition of the Heart after Operation in 27 Cases in which a Follow-up Examination was obtained*

Decade	Cardiac Cases with Obesity after Operation			Cardiac Cases without Obesity after Operation		
	Improved	Unchanged	Worse	Improved	Unchanged	Worse
3rd	0	0	1	1	2	0
4th	0	0	0	2	0	0
5th	3	0	3	4	0	1
6th	1	0	1	3	0	1
7th	0	0	0	1	0	2
8th	0	0	0	0	0	1
Total	4	0	5	11	2	5

TABLE IV.—*Showing the State of the Heart in the Quiescent Stage of Gall-bladder Disease in 18 Unoperated Cases in which a Follow-up Examination was obtained*

Decade	Cardiac Cases with Obesity			Cardiac Cases without Obesity		
	Improved	Unchanged	Worse	Improved	Unchanged	Worse
3rd	0	0	0	0	0	0
4th	0	0	1	1	0	1
5th	0	0	0	0	1	1
6th	1	1	1	0	2	1
7th	0	1	0	0	3	0
8th	0	2	0	0	0	1
Total	1	4	2	1	6	4

in the operated cases appears to mitigate the chances of cardiac improvement. It is interesting to note that those patients with gall-bladder disease, without obesity, in which the cardiac condition deteriorated after operation were all over 40 years of age. These figures suggest that cholecystectomy provides a satisfactory means of obtaining amelioration of the cardiac manifestations occurring in cases of gall-bladder disease, and that the presence of such evidence of heart disease, in some of these cases at least, does not constitute a contraindication to operation.

The duration of the symptoms of gall-bladder disease in relation to the incidence of associated cardiac lesions was considered worthy of investigation. This point is open to the obvious objection that disease of the gall-bladder may be latent in some cases; but it is difficult to suggest a more satisfactory basis for estimating the duration of the gall-bladder lesion. Fifty-six cases of this series had had gall-bladder symptoms for more than six months, and of these cases forty-seven exhibited cardiac manifestations. There were nine cases in which the gall-bladder symptoms had developed within six months of admission to hospital, and of these only one-third had clinical evidence of heart disease—thus suggesting that the longer the disease of the gall-bladder is permitted to exist the greater is the possibility of cardiac manifestations appearing. It must be admitted, however, that this is equivocal evidence. The possibility of sepsis in foci other than the gall-bladder being an aetiological factor in the production of cardiac lesions was considered, and it was found that such foci were at least as frequent in the non-cardiac as in the cardiac group. Coronary thrombosis, diagnosed on clinical and electrocardiographic findings, occurred in eight cases, all of which showed some evidence of gall-bladder dysfunction. Three of these patients were male and five were female; while two cases occurred in the fourth decade, one in the fifth, three in the sixth, one in the seventh, and one in the eighth.

The forty-six cases of gall-bladder disease with cardiac lesions which were followed up were divided up into two groups: one in which the cardiac manifestations were absent on discharge from hospital or at the follow-up examination—that is, "temporary cardiac cases"—and another in which a heart lesion was still detectable on discharge from hospital or at the follow-up examination—that is, "permanent cardiac cases." Nine cases fell into the former group, all of which except one had been subjected to cholecystectomy; while the latter group consisted of thirty-seven cases, of which only eighteen had had surgical treatment. The incidence of obesity in these cases was two in the former group and fourteen in the latter. There were five cases in which the cardiac condition was improved on discharge from hospital but which showed further cardiac damage at the follow-up examination. All five cases have had cholecystectomy performed; three patients were obese and one was myxoedematous. The beneficial effect on the heart of the enforced rest in bed, before and after operation, was probably responsible for the temporary but unsustained amelioration of the cardiac manifestations in these five cases.

It was possible to compare the pre-operative, post-operative, and follow-up electrocardiograms in forty cases of the series. This comparison revealed that the electrocardiogram was not in all cases an accurate indication of the state of the myocardium, and on occasion there was difficulty in correlating it with any change which the clinical cardiac manifestations might display. In cases in which coronary artery thrombosis had occurred, however, the electrocardiographic findings confirmed the clinical diagnosis and proved of definite value in prognosis.

The existence of gall-stones was proved at operation in twenty-nine of the forty cases in which operation was performed. Nineteen of these cases had cardiac manifestations, while the remaining ten had no clinical heart lesion. Cholecystitis without gall-stones was found in ten of the forty operated cases, and eight of these had cardiac manifestations. These figures suggest that, within the limits of the present investigation, heart lesions occurred more frequently in cases of cholecystitis without gall-stones than in cases of cholecystitis in which gall-stones were a prominent feature. Jaundice was present in ten cases of this series, seven of them showing evidence of a cardiac lesion. In six of these latter cases the cardiac condition was permanent.

No personal investigation was carried out to determine the incidence of heart lesions in a group of cases in which gall-bladder disease was thought to be absent, but the following figures are quoted from the paper by Schwartz and Herman:

The Percentage of Heart Disease per Decade in 109 Patients Without Cholecystitis, Comparing it with 109 Patients With Cholecystitis

Decade	Non-Gall-bladder Cases	Cholecystitis Cases
3rd	20	46.6
4th	8	41.6
5th	41.9	58.6
6th	54.1	79.1
7th	100	100
8th	80	100

The non-gall-bladder cases of Schwartz and Herman were "chosen at random from medical cases in identical age groups which were treated in the wards of the hospital. We excluded no cases except those which were cardiac *per se*, as rheumatic fever, subacute and acute endocarditis, and so on."

For comparison the percentage of heart disease per decade in gall-bladder cases in the present series is added, as follows:

Decade	Percentage	Decade	Percentage
3rd	80	6th	82.3
4th	54.5	7th	72.7
5th	82.3	8th	100

It is doubtful whether these groups of cases are really comparable; also, the percentage of heart disease in the non-gall-bladder cases appears very high in the third decade if cases of rheumatic endocarditis were rigidly excluded. Even if the large percentage is accurate for cases without gall-bladder lesions, the proportion of heart lesions in gall-bladder cases is higher in the series of Schwartz and Herman, and even greater in the present series.

Conclusions

From the preceding analysis of the cases of the present series the following conclusions seem possible:

1. Disease of the gall-bladder was commoner in females than in males in the proportion of 8 to 1.

2. The cases of gall-bladder disease occurred between the third and eighth decades inclusive, and were most frequent in the fifth and sixth decades.

3. The cases of gall-bladder disease often exhibited evidence of a cardiac lesion (77 per cent.), and all the males and 74 per cent. of the females were affected in this way.

4. Obesity occurred in 37 per cent. of cases, and thus the incidence of heart disease was greater than that of obesity in this series. It therefore appears that obesity, if a factor, is not the whole explanation of the occurrence of cardiac lesions in cases of gall-bladder disease.

5. Foci of sepsis, other than in the gall-bladder, were at least as frequent in the gall-bladder cases with normal hearts as in those with evidence of cardiac damage.

6. The cardiac lesion was "temporary" in some cases of gall-bladder disease and "permanent" in others, and some of the latter group displayed an unsustained amelioration of the heart condition after operation, which was probably due to the beneficial effects of the enforced rest in bed.

7. The incidence of heart lesions in cases of gall-bladder disease was uninfluenced by the presence of jaundice.

8. Coronary artery thrombosis occurred in 12 per cent. of cases of gall-bladder disease, and on occasion may present difficulty in differential diagnosis.

9. The electrocardiographic evidence was inconsistent in many cases of myocardial insufficiency when compared with the clinical condition of the patient, but was of great value in cases in which coronary artery thrombosis had occurred.

10. Cholecystectomy produced a cure of the gall-bladder symptoms in 78 per cent. of cases in which this operation was performed, and appeared to be a satisfactory measure for obtaining amelioration of the cardiac manifestations occurring in cases of gall-bladder disease. The presence of similar heart conditions in cases of gall-bladder disease does not constitute a contraindication to cholecystectomy. Fatal pulmonary embolism occurred as a post-operative complication in 5 per cent. of cases.

11. There was some evidence to suggest that the longer disease of the gall-bladder is permitted to exist the greater is the possibility of cardiac manifestations making their appearance. The early treatment of gall-bladder disease by cholecystectomy thus appears to be indicated.

12. From a study of this series of sixty-five cases of gall-bladder disease the impression was gained that infection of the gall-bladder was a definite aetiological factor in the production of the myocardial lesions commonly found in these cases, and that the presence of obesity, though almost certainly a factor in some cases, does not always explain the cardiac damage.

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FOUR CASES OF MENINGITIS TREATED WITH PRONTOSIL

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The first two of these cases were treated by serum and prontosil, the two others by prontosil only. In their clinical aspects all four were typical mild cases of cerebro-spinal fever. In three of them Gram-negative diplococci were found in the films, but the weak point is that meningococci were not grown in any of the cases. Therefore the diagnosis is not proven. It was for this reason that I did not report them at the time. I had hoped that more undoubted cases so treated, whether successfully or unsuccessfully, would have been published before this. I am now recording these in the hope that they will stimulate reports from those who have more cases to treat.

The results in these cases were more rapid and complete than those I have usually obtained from serum. The treatment avoids the repeated puncture for administration of serum, which is so trying a procedure for all concerned. The last case was punctured twice only—once for diagnosis, and the other time to find if the fluid was normal. None of the patients was fully grown, so that the dosage was large, but I felt that in this type of illness an initial big dose was essential. All the cases were mild, and would probably have ended in recovery without prontosil.

Prontosil Reactions.—The late rise of temperature in Cases I and III may well have been instances of prontosil fever. The rash in Case IV was probably due to prontosil, but in none of them was the patient ill: they looked well, ate well, slept well, and said that they felt well.

Case I

A boy, aged 14, was admitted to hospital on February 19, 1937, having been ill for the past week with headache, general irritability, and vomiting. There was definite head retraction and rigidity of neck, and Kernig's sign was present. He was normally conscious. The cerebrospinal fluid was under pressure and was turbid.

Pathological Report, February 22.—"Turbid xanthochromic fluid with a heavy deposit of pus. Chlorides 0.680 per cent.; sugar absent; albumin 0.3 per cent. Films show large numbers of polymorphonuclears and a very occasional Gram-negative diplococcus, probably meningococcus."

The patient was treated by anti-meningococcal serum—intramuscular on February 19, intramuscular and intravenous on February 20; and by prontosil, two tablets (0.6 gramme) every four hours—that is, 3.6 grammes (about 60 grains) each twenty-four hours—commencing February 21 and continued for one month.

He rapidly improved. Lumbar puncture on February 19, 20, 21, and 22, and again on March 17, showed that the fluid was clear, and the pathologist reported it to be normal. Before the end of the first week the headache and neck retraction had entirely disappeared. He looked well, and said that he felt well. He continued to have a slight pyrexia, which in the third and fourth weeks sometimes reached 100° F., but remained in good health and without symptoms.

Case II

A youth, aged 17, was admitted on April 26, 1937, with four days' history of headache and pain in the back and limbs, with vomiting for the last two days. He was quite conscious. Head retraction and neck rigidity were present. Kernig's sign was positive, and the cerebrospinal fluid was turbid and its pressure much increased.

Pathological Report, April 29.—"Turbid xanthochromic fluid, with a large coagulum and heavy deposit of pus. Chlorides 0.720 per cent.; sugar absent; albumin 0.2 per cent. Films show large numbers of polymorphonuclears and a very occasional Gram-negative diplococcus—probably meningococcus."

Treatment.—He was given 10 c.cm. of serum intramuscularly and 10 c.cm. intrathecally on April 26; 10 c.cm. intrathecally and 10 c.cm. intravenously on April 27; prontosil on April 26—two tablets (each 0.3 gramme) four-hourly, increased to twenty tablets in the twenty-four hours on April 29, reduced again to twelve in twenty-four hours on May 2, and stopped on May 10. The patient made a rapid recovery.

Case III

A youth, aged 17, was admitted on May 7, 1937. Four days earlier his illness had begun with headache, vomiting, and stiffness in the neck. He was conscious. His head was retracted and his neck rigid. Kernig's sign was positive. The cerebrospinal fluid was under increased pressure and was turbid.

Pathological Report, May 8.—"Fluid very turbid; xanthochromic, with a heavy deposit of pus. Chlorides 0.690 per cent.; sugar absent; albumin 0.2 per cent. Films show large numbers of polymorphonuclears, and a very occasional Gram-negative diplococcus, probably meningococcus."

Treatment.—This was by prontosil only—two tablets (each 0.3 gramme) every two hours (7.2 grammes in twenty-four hours), reduced on May 9 to every four hours, and stopped on May 17.

He very rapidly recovered, losing his headache, retraction, and rigidity. During a second rise of temperature, which occurred from May 14 to May 17, he said that he felt quite well. His cerebrospinal fluid was normal, and the blood culture negative. A blood count was not done.

Case IV

A youth, aged 16, was admitted on June 24, 1937, with five days' history of headache and shivering, followed by drowsiness, neck stiffness, and vomiting. Head retraction and neck rigidity were present, and Kernig's sign was positive. Herpes labialis was also present. The patient was conscious. The cerebrospinal fluid was under pressure and turbid.

Pathological Report, June 26.—"Very turbid xanthochromic fluid with a heavy deposit of pus. Chlorides 0.700 per cent.; sugar absent; albumin 0.2 per cent. Films show large numbers of polymorphonuclears; no micro-organisms seen."

Treatment.—Prontosil only—two tablets every two hours, reduced on June 26 to every four hours and stopped on July 3.

The patient very rapidly recovered, and the pathological examination on July 5 showed a normal cerebrospinal fluid. On July 7 he developed a generalized papulo-erythematous rash. This lasted only a few days, and he was discharged in good health on July 14.

[NOTE.—The *Journal of the American Medical Association* of February 26, 1938 (p. 630), contains an article on "Sulfanilamide Therapy in Meningococcic Meningitis," in which Dr. Leon J. Willien reports an account of five cases, all cured by that substance. The author gives an initial subcutaneous injection of a large dose of the saturated (0.8 per cent.) solution in amounts approximating 0.05 gramme per kilogramme of body weight—that is, 500 c.cm. for a normal-sized adult—followed by 15 grains (1 gramme) by mouth every four hours.]

UNUSUAL COMPLICATIONS OF LABOUR

BY

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The two cases here described are grouped together for reasons other than their comparative rarity. At a first glance each appears to be a rare complication of labour, and there the similarity might appear to end. In one an annular portion of cervix was detached spontaneously during labour, while in the other an acquired vaginal septum obstructed birth. Their points of similarity probably lie in both aetiology and effect—a pre-existing inflammatory condition was certainly the cause in one, if not in both, and in each case there was a degree of obstruction to labour in the soft parts of the birth canal.

Spontaneous Amputation of the Cervix during Labour

Spontaneous separation of part of the cervix in the course of labour would appear to be a rare accident. E. J. Decosta (1933) was only able to collect thirty-two cases from the literature between 1820 and 1933, and there was a long lapse of time between the reporting of the first two cases in America—that of Johnson was observed in 1851 and the second was recorded by Dorsett in 1927. Scott reported in 1821 the first case of annular separation of the cervix, which occurred in the case of a primipara, aged 36, after a long labour; the detached portion of cervix was expelled before the birth of the child. The next case was that of Carmichael, later reported by Power (1840). In this case there was definite evidence of disproportion, for after the cervix had separated spontaneously embryotomy was necessary to deliver the child. If this peculiar accident of childbirth is to be viewed in its right importance it must be accepted that a large proportion of the very few recorded cases are not proved examples of spontaneous separation. In fact, unnecessary obstetric interference was probably the para-

mount factor, and thus certain recorded cases do not properly belong to the spontaneous group. Some facts of interest are brought out in the following case history.

Case I

A primigravida, aged 26, was seen as an emergency case. Labour began on February 19, 1930, and the patient was admitted to hospital at 3.40 p.m., apparently suffering from a severe degree of pain in the back. The general condition was good, her temperature being 98° F., her pulse rate 88, and her blood pressure 130/80 mm. Hg. The uterus was larger than normal; the foetus was in the first vertex position, the head was engaging, and the foetal heart was heard. The pelvic measurements were normal, the cervix was one-finger dilated, and the membranes were intact. Combined abdominal and vaginal examination failed to show any disproportion. The membranes ruptured at 6 p.m., and examination revealed the cervix to be two-fingers dilated.

On the following day (February 20) at 4 p.m. a further vaginal examination was made. The head had advanced and the absence of disproportion was confirmed. The cervix was three-fingers dilated and definitely not oedematous. On February 21, at 11 a.m., the head was found to have advanced little and a band of tissue was felt lying below and behind the foetal head. This was identified as an annular portion of cervix which was detached almost completely.

Subsequently, at 5 p.m. on the same day, the patient was delivered with forceps of a living male child. There was little difficulty in delivering the head, but considerable difficulty with the shoulders, which were unduly broad. There was considerable post-partum haemorrhage, due to the uterus being atonic and to torn vessels in the cervix. The annular portion of cervix was attached loosely to the uterus posteriorly over an area of between a quarter of an inch and half an inch. Slight traction completely detached the torn fragment. The cervix was sutured posteriorly and haemorrhage arrested to some extent. Laterally and anteriorly it was impossible to suture the cervix, so the vagina and the remains of the cervix were plugged. At the time of delivery a swab was taken from the region of the cervix and subsequently showed a profuse growth of *Streptococcus pyogenes*; 30 c.cm. of scarlet fever antitoxin were given immediately after delivery.

The patient was very shocked after delivery, her pulse rate rising to 150, but after twenty-four hours it had fallen to 120 and the temperature was 99.6° F. From the second day onwards the puerperium was uneventful. The baby's weight at birth was 8 lb. 9 oz.; the total duration of labour was sixty-two hours.

SEPARATED PORTION OF CERVIX

It can be definitely stated that a cervix which was not oedematous at any time during labour and which felt normal became separated for about seven-eighths of its circumference in nineteen hours. The separated portion of cervix showed the external os to be dilated to a size of 2 inches by 1¾ inches; more cervical tissue was detached anteriorly and posteriorly than laterally. The detached portion was progressively thinner from the external os to the line of separation, and there were scattered areas of haemorrhage into the substance of the cervix. Both surfaces were covered with irregular flakes of lymph and fragments of necrotic tissue.

Microscopically, the epithelial covering of the cervix had for the most part disappeared. The blood vessels were dilated and engorged with blood, and blood was also extravasated into the substance of the cervix, which consisted mainly of fibrous tissue; very little muscle and no elastic tissue was seen.

SUBSEQUENT HISTORY

On vaginal examination of the patient three weeks after delivery the cervix had contracted down and felt normal; in fact it was difficult to believe that a portion had been detached. In August, 1934, the patient was seen again. Since the labour in 1930 she had had no pregnancy; her periods were regular, the loss remained unchanged, and there was no pain. She had suffered intermittently from a slight vaginal discharge, but otherwise her health had been excellent. The child was progressing well and apparently had not suffered in any way.

Comment

It would appear to be of prognostic importance that, in this case as in all recorded cases, the cervix tears at a point well below the utero-vaginal junction, otherwise fatal complications would probably occur. In the case under discussion the separation of part of the cervix was discovered too late for any treatment. If a circular tear was diagnosed early it seems possible that a radial incision in the cervix opposite the tear might well prevent it extending further. Certain aetiological factors have been described in this rare condition and some can be accepted as possible in this case. Disproportion is an obvious predisposing cause, first giving rise to oedema and later to necrosis and separation. In this instance, however, there was no disproportion and the cervix was not oedematous up to nineteen hours before delivery; in fact, oedema was never noted. L. Phillips (1927) recorded a case of spontaneous separation in which there was no disproportion. The patient was a primipara, aged 44; labour was induced at the thirty-seventh week and the membranes ruptured with the onset of labour. Twenty-nine hours after the onset of labour the cervix would only admit two fingers; seven hours later no ring of cervix could be felt, but behind the head an oedematous lip of cervix was palpated. Subsequently, when it was decided to deliver the patient with forceps, a ring of detached cervix slid out of the vagina. The patient died from a *B. coli* septicaemia. In this case the age of the patient and the early rupture of the membranes would appear to be the only definite factors.

Early rupture of the membranes must of course place an undue strain upon the cervix, and in a high proportion of Decosta's (1933) series the membranes ruptured early or before labour started. In the case here recorded there was certainly a long labour, and the membranes ruptured after fifteen hours when the os was two-fingers dilated. Normally, during the first stage of labour cervical dilatation depends largely upon the upward traction of the longitudinal muscle fibres of the uterus and the downward pressure of the bag of waters. With removal of this hydrostatic bag there must be more pressure exerted through the foetus, and subsequent advancement and dilatation are due to the direct pressure of the foetal head. In any event, there must be undue pressure on the cervix and particularly in a case of disproportion. In disproportion the maximum pressure is naturally localized on that part of the cervix which is nipped between the foetal head and the pelvis. The absence of disproportion allows the foetal head to press evenly on the dilating cervix, and thus one should not expect to find oedema present. This hypothesis undoubtedly explains the absence of oedema in the present case. Some degree of dilatation of the external os, together with effacement of the internal os, was also present and can be regarded as typical of this accident. The fact that dilatation is able to proceed to a certain degree rather tends to negative the possibility of any inherent rigidity being a factor.

Certain abnormalities of the form and fabric of the cervix may well be predisposing factors. The only abnormality in form to be considered is the length. Unfortunately, no observer seems to have noticed this point before labour or to have had an opportunity of studying it in these cases. The matter remains one of conjecture, the only evidence being the portion of tissue left behind. Three weeks after delivery my patient had a cervix of apparently normal proportions, and yet the detached

annular ring represents a considerable amount of tissue. It may therefore be suggested that in this case the cervix was most probably abnormally long. In a case described by Füth (1923) the findings were similar.

Could the cause of separation lie in the texture of the cervical tissue? This question is pertinent, but, unfortunately, the tissue separated is not ideal for exact microscopical examination. The normal cervix contains proportionately more connective tissue intermixed with smooth muscle and elastic fibres than does the body of the uterus. Other factors being equal, the ability of the cervix to dilate varies directly with the amount of muscle and elastic tissue as compared with fibrous tissue present. Couvelaire considered that the leucocytic infiltration frequently noted was indicative of pre-existing inflammation, which in turn gave place to fibrosis and rigidity. In the case described sections of the detached cervix appear to consist mainly of fibrous tissue infiltrated with blood; muscle fibres are scattered irregularly and in very small proportion, and elastic tissue is completely absent.

It is thus clear that in Case I the cause of rupture can be assigned to certain factors: (1) rupture of the membranes when the os was only partially dilated, thus bringing undue pressure upon the cervix; (2) an abnormally long cervix; and (3) a change in the fabric of the cervix, causing an increased proportion of fibrous tissue.

The incidence of cervicitis is so high and the accident of cervical detachment so rare that if previous inflammation be accepted as a definite aetiological factor there must be other contributory factors with which we are not yet sufficiently familiar.

This case also illustrates an interesting point in puerperal infection which has been recorded previously. A swab taken from the region of the cervix at the time of delivery produced on culture a pure growth of *Streptococcus pyogenes*, which was proved to be virulent as regards experimental animals. The patient received 30 c.cm. of scarlet fever antitoxic serum and her temperature remained normal after the first day of the puerperium. Thus, she escaped puerperal sepsis in spite of the presence of a virulent strain of streptococci in the birth canal and severe damage to the soft parts. This must be attributed either to her own personal immunity or to the early use of serum. Whichever be accepted as the cause, the lessons to be learnt are identical in principle. The origin of *Streptococcus pyogenes* in the birth canal in this case is a matter of conjecture. This organism is not commonly present in the birth canal before labour. In 600 cases investigated I only found it present in three cases, and all possessed such a degree of immunity that no puerperal infection resulted.

Acquired Vaginal Septum Obstructing Labour

In the second case a vaginal septum sufficiently thick to obstruct delivery was acquired in a maximum period of two years. At the time of delivery the septum was imperforate, and after delivery by Caesarean section the pressure of the contracting uterus, stimulated by pituitrin, was insufficient to expel any lochia. That about forty weeks previously there must have been some orifice through which spermatozoa could penetrate is obvious. The method of dealing with this case may at first seem unusual, but the complications were also unusual and the end justified the means.

Case II

A patient, aged 26, had a history of two previous pregnancies with normal labours at term. No positive history of vaginal laceration could be elicited, and there were no symptoms of such laceration having occurred, but no search had ever been made. The patient was seen in consultation with her own doctor on February 29, 1932. She had been in labour for eight hours with strong pains; on vaginal examination her own doctor had been unable to identify the cervix. The foetus was lying in the first vertex position and the head was well down in the pelvis. On vaginal examination the foetal head was easily felt through a septum, but the external os could not be identified, and even with a speculum no trace of the cervix could be found. A sound passed into the bladder reached almost to the blind apex of the vagina, and a finger was inserted into the rectum to a point only three-quarters of an inch from the end of the sound. Owing to the close proximity of the rectum and bladder, however, it was thought dangerous to incise the vaginal septum lying below the foetal head.

A classical Caesarean section was performed and a live baby delivered. After removal of the placenta, the lower uterine segment was carefully examined, visually and by palpation, but no part of the os could be identified. After suturing the uterus and abdominal wound, the patient was placed in the lithotomy position. No blood had passed into the vagina, and other search for the cervix was fruitless. Pituitrin, 5 units, was given four-hourly; each injection produced pain referred to the uterus, but still no lochia escaped. As the pituitrin produced an unpleasant degree of pain and as there was also abdominal distension not relieved by enemata, eserine sulphate, grain 1/32, and strychnine sulphate, grain 1/32, were substituted. These also produced abdominal pain and were therefore discontinued. The height of the uterus remained unchanged until the eleventh day of the puerperium; during the twelfth and thirteenth days the level rose by one inch, and continued to rise till the fifteenth day. Following this the height gradually fell, till it reached a level half-way between the symphysis pubis and the umbilicus on the twenty-second day of the puerperium. During the whole puerperium there had not been any escape of lochia and the temperature and pulse remained normal.

EXCISION OF VAGINAL SEPTUM

On the thirtieth day after delivery the patient was examined under an anaesthetic in the lithotomy position. The vaginal vault was seen to be blue in colour and bulging. The centre was incised and about 10 oz. of chocolate-coloured inspissated blood escaped; the uterus was then carefully washed out at a low pressure. The incised membrane was found to be very tough and about a quarter of an inch thick; a circular area of one and a quarter inches diameter was removed. Adherent to the upper surface of this membrane the external os was located and found to be two-fingers dilated; the internal os still seemed to be fully taken up. Recovery from this operation was uneventful and the lochia ceased twelve days later. The patient was again examined after an interval of eight weeks. The uterus was then found to be fully involuted, and the orifice in the vaginal septum had contracted down so as to admit only one finger. Under an anaesthetic more of the septum was removed and a vaginal dilator was left in position for a week, being removed and replaced daily. Microscopical examination showed the septum to consist of dense fibrous tissue covered on its upper and lower surfaces with stratified squamous epithelium.

Comment

This case certainly resembles those in which an inflammatory condition of the cervix or vagina has caused shedding of the covering mucosa, subsequent adhesion of the raw surfaces, and finally organization of the intervening inflammatory tissue. The end-result is an imperforate cervix or vagina. This condition is probably what was once known as the *conglutinatio orificii externi* of Naegele. Very few of these cases have been recorded. Croft and Claye (1928) described that of a woman who had passed through four normal pregnancies; there had been a

marked degree of prolapse and ulceration of the cervix. At the time of the fifth labour the only trace of the external os was a slight linear scar. A case more closely resembling the one described here was recorded by Kanter and Klawans (1930). They reported a case of vaginal atresia occurring rapidly after an operative delivery. In such cases the pelvic floor and bladder are greatly relaxed, so that the anterior and posterior vaginal walls come to lie in close approximation. In their case a woman was delivered on June 15, 1929. The delivery was with forceps and without any anaesthetic; no attempt to repair any tears was made. The temperature and pulse were normal in the puerperium, but no lochia were passed after the third day. The patient was seen on September 30 of the same year. There was then found to be atresia of the vagina at the level of the entrance of the urethra into the bladder. In this case the degree of damage to the vagina was not known and strong antiseptics employed at the time of delivery may have played a part in giving rise to the condition. This case demonstrates well how quickly atresia of the vagina may occur and the strength of the septum so formed—sufficient in this instance to retain the lochia after the third day of the puerperium.

In Case II the exact aetiological factors concerned in producing the septum must remain to some extent obscure, even though the field of possible causes is considerably restricted. The history of previous labours, in itself, at first seems to exclude any congenital abnormality as a possible contributory factor, but this must be considered later. Some trauma to the vagina in the course of the previous labour might have been the starting-point of such a septum. If there were trauma, then one would expect it to have been fairly severe and to have produced symptoms not easily overlooked. Yet the previous labours and puerperia were normal and the only symptom was a slight and persistent vaginal discharge. If the septum began to develop soon after the second labour, then one would have expected some obstruction to the flow of blood at the periods. Unfortunately, the flow was always small, and no change was noticed except a slight increase in pain during the periods. This pain may point to some obstruction arising in the vagina.

It is thus apparent that although trauma and infection either jointly or separately were the responsible factors, yet there is no real proof of this. One is forced, therefore, to consider afresh a congenital theory. Perhaps there was a congenital narrowing or a partial septum present in the upper part of the vagina, and a degree of trauma and infection unlikely to cause trouble in a normal vagina were the final factors in this case. This view is supported by the type of septum found, which was well defined, remarkably thick and resistant, and did not seem to consist of recently organized granulation tissue. Further, the vagina below the septum appeared quite normal and there was no evidence of long-standing infection anywhere in the genital tract. The total disappearance of an orifice during pregnancy also offers a remarkable picture; it is of interest to consider how small or large it was at the time of conception. The increased vascularity of the vagina during pregnancy would no doubt accelerate the closing of the septum, provided the edges were not epithelialized. This case also illustrates the fact that the retention of the lochia after labour need not cause any anxiety. At the time of the Caesarean section the degree of asepsis was good, and in the absence of any infection the retention of a large volume of lochia for a considerable period had no effect on the temperature, the pulse rate, or the general condition of the patient.

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UNUSUAL PHYSICAL SIGNS IN LOBAR PNEUMONIA

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Lobar pneumonia may present, in place of the classical physical signs, abnormal findings to confuse the diagnosis even when the onset, symptoms, and temperature all seem conclusive. These perplexing features would seem to require explanation, and this can be found only in the physiological and pathological changes in the underlying lung, since physical signs in themselves, even when taken in groups, are not conclusive proof of any particular disease. Thus the consolidation of pneumonia, due to alveolar exudate, is usually evidenced by dullness to percussion and by bronchial breathing, and these are the accepted signs of the disease. When alveolar exudation is complicated by bronchial filling there is produced a different group of physical signs—those of a solid lobe with a blocked bronchus. A complete absence of breath sounds is discovered, together with other signs suggestive of a moderate accumulation of fluid.

Three Illustrative Cases

A patient recently observed by us after tonsillectomy developed on the second day a temperature of 102°, dullness with absent breath sounds at the right base, and dullness with bronchial breathing at the left base, the apex beat not being displaced. Two days later an *x*-ray film showed consolidation at both bases, more marked on the right, but with no clear evidence of fluid. After ten days the fever subsided by lysis, but it was not until the fourteenth day that bronchial breathing was first detected at the right base. Subsequent *x*-rays demonstrated gradual clearing of the consolidation. We believe that the physical signs first found at the right base were those of pneumonic consolidation together with blocking of the main bronchus by a sputum plug, expectoration of which a fortnight later allowed air entry and the production of bronchial breathing. This supposition was confirmed by bronchography on the tenth day, when it was demonstrated that though the main bronchus of the right lower lobe was patent all the secondary and tertiary branches were blocked. Repetition of the bronchography prior to the patient's discharge showed the presence still of a little sputum, but for practical purposes the bronchi of the lower lobe were normal.

Another pneumonic patient exhibited the typical *x*-ray appearances of right basal consolidation, but though the percussion note was dull no breath sounds could be heard over

the diseased area. Next morning, however, the breathing was bronchial in character, but reverted again later in the day to its previous inaudibility. Occlusion and patency of the bronchus alternated during the next fortnight, at the end of which radiological examination showed almost complete resolution.

The occurrence of lobar pneumonia not with the signs of fluid but with complete absence of abnormal physical signs is less frequent but even more interesting.

A third case of unmistakable pneumonia showed no abnormal physical signs whatever until a few redux crepitations appeared during resolution, and the diagnosis might have remained a little uncertain had not a radiograph shown consolidation of the centre of the middle lobe with a cortex of healthy lung tissue shallow enough in itself but sufficient to obscure the condition of the underlying lung ("the central pneumonia" of the textbooks).

The physical signs of pneumonia with and without bronchial occlusion are closely parallel to those of massive or absorption collapse with patent bronchus and with closed bronchus, the main point of difference being the position of the heart. In pneumonia the apex beat is not as a rule displaced, whereas in collapse there is a homolateral shift which may not, however, in well-compensated cases, be sufficient to be clinically evident. Massive collapse may itself be further complicated by the development of pneumonia in the affected lung tissue, in which case differential diagnosis is largely dependent on *x*-ray examination and the temperature chart.

While it is readily admitted that a large pleural effusion would cause such contralateral cardiac displacement as would dispel any difficulty in distinguishing it from one of the pneumonias above described, the small effusion conforming to the size of a lower lobe is a very different matter, the cardiac shift being sometimes so slight as to be undetectable without a radiograph, and the physical signs identical with those of pneumonia with a blocked bronchus. We have hesitated to explore these cases for fluid for fear of infecting a healthy pleura through the needle track, but it is possible that this risk has been exaggerated. Bullowa (1937) records over two thousand diagnostic lung punctures in pneumonia without serious complication.

Should a lobar pneumonia presenting these signs (dullness to percussion and absent breath sounds) show a persistently raised temperature or secondary elevation, there arises the problem of differentiating pleural and pulmonary sepsis, empyema, and abscess, or spread of the pneumonia. The clinical findings are so equivocal that only after an *x*-ray film has been taken is it justifiable to explore. Our second patient, after an apyrexial period from the fourth to the eighth day, developed a temperature of 100°. Radiological examination showed no evidence of fluid, and the temperature gradually returned to normal during the ensuing week, so that it was unnecessary further to watch for the development of an empyema. It is possible that retention of sputum was responsible for the secondary fever.

We have described these abnormalities in the hope that the physical diagnosis of pneumonia may become established on a broader basis, as we believe that atypical forms are seen more often than is generally admitted, as witness the fact that these three cases were seen in succession.

We are indebted to Dr. R. A. Young, Dr. J. L. Livingstone, and Mr. J. C. Hogg, of the Brompton staff, for their kind permission to make use of the cases.

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THE POSITION OF THE PATIENT IN GASTROSCOPY

AN OPERATION TABLE ATTACHMENT

BY

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During any instrumental investigation the comfort and sense of security of the patient are essential to the satisfactory performance of the examination. This is a matter of particular importance in gastroscopy, both with regard to the immediate result and to the possibility of a further examination. If these points receive care and attention at the patient's first investigation he will have little reluctance to submit himself again to the procedure should it be necessary. I have examined a number of patients who have willingly come to hospital to be gastroscoped four and five times without fear of anything more than a little discomfort.

The Patient's Position during Examination

The details of the technique of gastroscopy have been described elsewhere (*British Journal of Surgery*, January, 1937), but it may perhaps be useful to consider the question from the patient's point of view with regard to his position during the examination. Although I have on occasion found the sitting position of the patient a great advantage in viewing a difficult gastro-enterostomy opening, the left lateral position is unquestionably the most satisfactory one for almost all cases of gastroscopy. In this position the stomach is not elongated by gravity; the pylorus tends to fall towards and the greater curve away from the objective, so that each can be seen to the best advantage and properly illuminated. For the optimum ease of instrumentation, however, the patient must lie with as complete relaxation of the muscles as possible; and to obtain this he must have complete confidence that he cannot slip or alter his position during the examination, particularly when the table is tilted. Fixed, rigid, but well-padded supports are both more efficient and give more confidence to the patient than the grip of an assistant, and with this object in view I have designed an attachment to an operating table to adapt it for gastroscopy.

With regard to the desirability of tilting the patient during the examination I have experimented for over two years with a special table which allowed tipping in all directions—longitudinally or sideways, either singly or in combination. I have found that whereas tilting the patient head down has often been useful in shifting a collection of bubbles or in opening out an exaggerated gastric angle to allow the pylorus to be seen, in no case has the sideways tilting enabled a difficulty to be overcome or brought into view a part of the stomach that could not be seen.

In accordance with this experience, the attachment described below consists of a portable folding table top, which, when strapped to an operating table with provision for the Trendelenburg position, provides all the supports and movement necessary for gastroscopy. It carries an adjustable back rest, head rest, shoulder stop, and Henning's knee and foot pillars, all of which are detachable (Figs. 1 and 2), so that it is unnecessary to move the patient between the anaesthetizing of the throat and the passing of the instrument.

* British Medical Association Research Scholar, 1937–8.

The Attachment in Use

The technique is as follows: The patient lies on his back on the table top, with the head rest swung sideways clear of the table, the foot, knee, and back rests being removed (Fig. 1). The throat and pharynx are anaesthetized, a stomach tube is passed to evacuate the residual gastric juice, and the patient is then asked to turn on to his left side. The back rest, knee pillar, and foot-piece are now attached and adjusted to the patient's anatomy in the manner advocated by Henning, as follows (Fig. 3). The upper thigh is held between the knee pillar in front and the back rest, so that the patient cannot roll over; the lower knee is flexed in front of the knee pillar and the foot is brought behind the foot pillar. Comfortably locked in this way the patient's left leg prevents him from slipping down the table when it is tilted and allows the abdomen to be free of all pressure. The head section of the table proper is then dropped and the head rest of the attachment is swung in to support the head and adjusted for height and in the horizontal plane in both axes. The shoulder stop carried on the head rest is adjusted to prevent the patient's lower shoulder from twisting forwards.

It is explained to the patient that he is being thus securely held in order that the table can be tipped during the examination without fear of his slipping, and he is encouraged to relax his body against the supports. The instrument can then be passed without other assistance, although a second person to hold the patient's head and a nurse to hold his hands will help, if available, to increase his confidence.

The details of the table top are shown in the photographs: open on the table without attachments; with attachments in position; with the patient upon it; and finally folded up ready to be carried away. It is made of two padded sections hinged together in the middle for ease of portability. The combined head rest and shoulder stop is carried in a slotted arm, which allows adjustment for

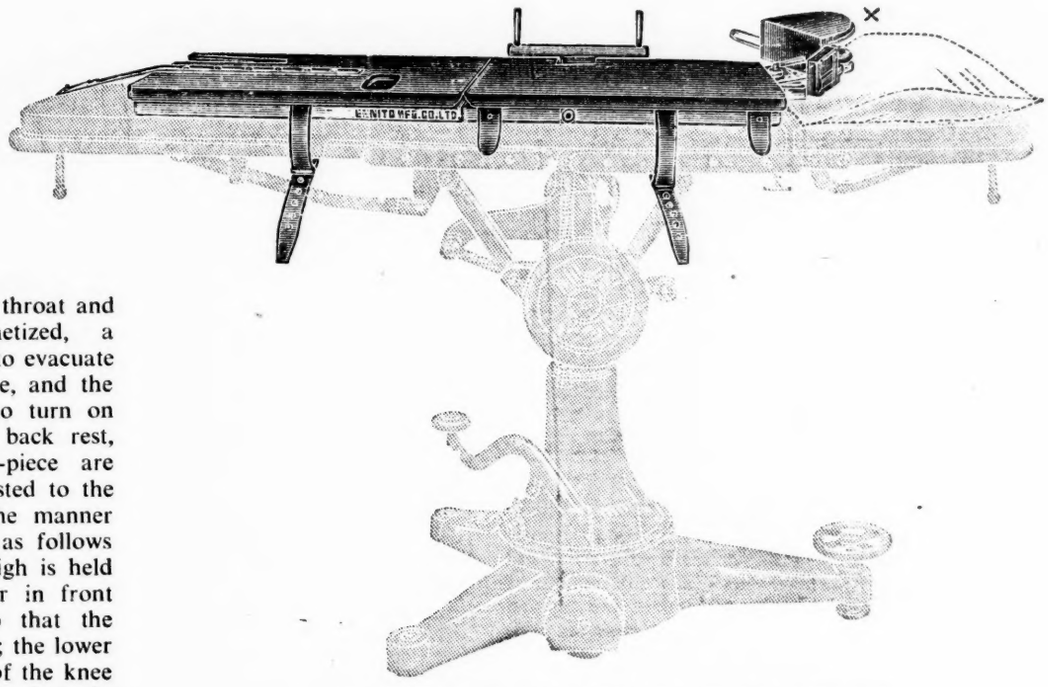

FIG. 1.—Attachment in position on operating table ready for patient. All supports are removed and the head rest (×) is swung clear to allow the patient to lie on his back for anaesthetization of the throat.

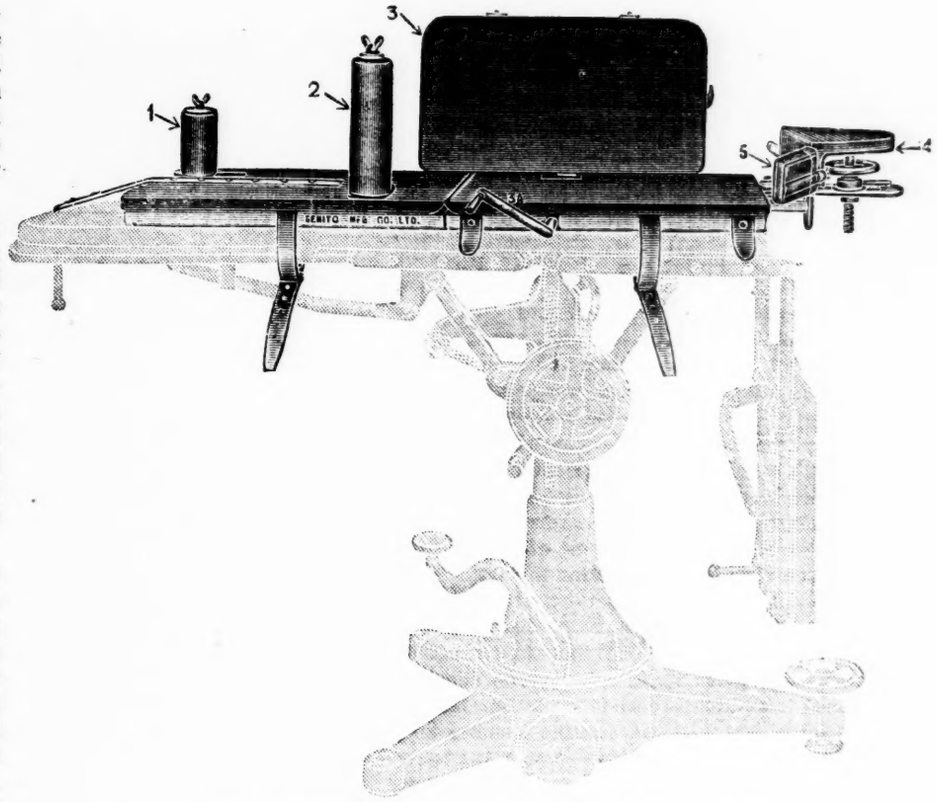

FIG. 2.—Gastroscopy attachment complete. *Note:* (1) Foot pillar; (2) knee pillar; (3) back rest with [3A] adjusting handle; (4) head rest; (5) shoulder stop.

length, and swivels at the attached end so that it can be swung laterally as required. The height of the head cushion is controlled by the wheel beneath it. The foot and knee pillars slot into key-ways which allow longitudinal and transverse adjustment respectively, being clamped in position by a butterfly screw on top of each. The back rest fits into a transverse carrier, which can be adjusted for position across the table by a screw action actuated by a handle.

The apparatus is made by the Genito-Urinary Company, and I would like to take this opportunity of thanking Mr. R. Schranz for his co-operation and help in the experimental stages of construction. I also wish to express my appreciation of the support given by the British Medical Association in this work.

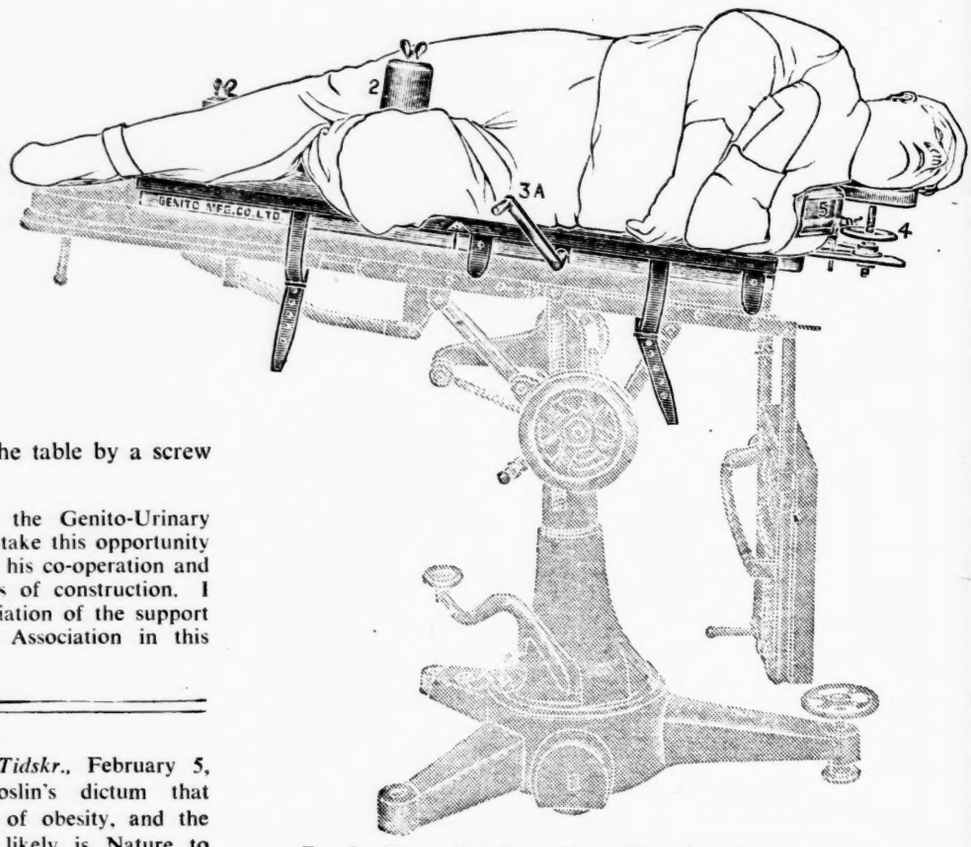

FIG. 3.—The patient in position. Note that the top section of the operating table has been dropped to allow the head rest to be swung into position.

G. Hertzberg (*Nord. med. Tidskr.*, February 5, 1938, p. 213) challenges Joslin's dictum that "diabetes is largely a penalty of obesity, and the greater the obesity the more likely is Nature to enforce it." At the Rikshospital in Oslo the author has systematically weighed 400 consecutive cases of diabetes admitted to hospital in the period from the beginning of 1931 till the spring of 1935. The height of each patient was also measured, and standard weights of normal Norwegians of various heights and ages served as controls; any weight within 10 per cent. of the normal, whether above or below it, was considered as normal. Nearly half of the juvenile diabetics were underweight, while about a third were overweight. About 20 per cent. of the men were underweight, while 33 per cent. were overweight. Of the women, about 16 per cent. were underweight, and 55.7 per cent. were overweight. As in Joslin's experience, the proportion of underweight cases was higher in young than in old patients, and this difference was greatest when the discrepancy in age was most marked. In every age group, however, the Norwegian diabetics were lighter than Joslin's American patients. Indeed, as one of Hertzberg's tables shows, there was no striking difference between the normal weight and that of his diabetics at the beginning of their disease. He concludes that his observations fail entirely to confirm Joslin's assumption that overfeeding plays a dominant part in the aetiology of diabetes. The Norwegian figures suggest that the severity of the disease was on the whole inversely proportional to the patient's weight before and at the time of the development of the diabetes, for the insulin-taking patients—that is, the worst cases—were numerically best represented among the underweight group. Half of the overweight patients could dispense with insulin, but this applied to only one-ninth of the underweight patients.

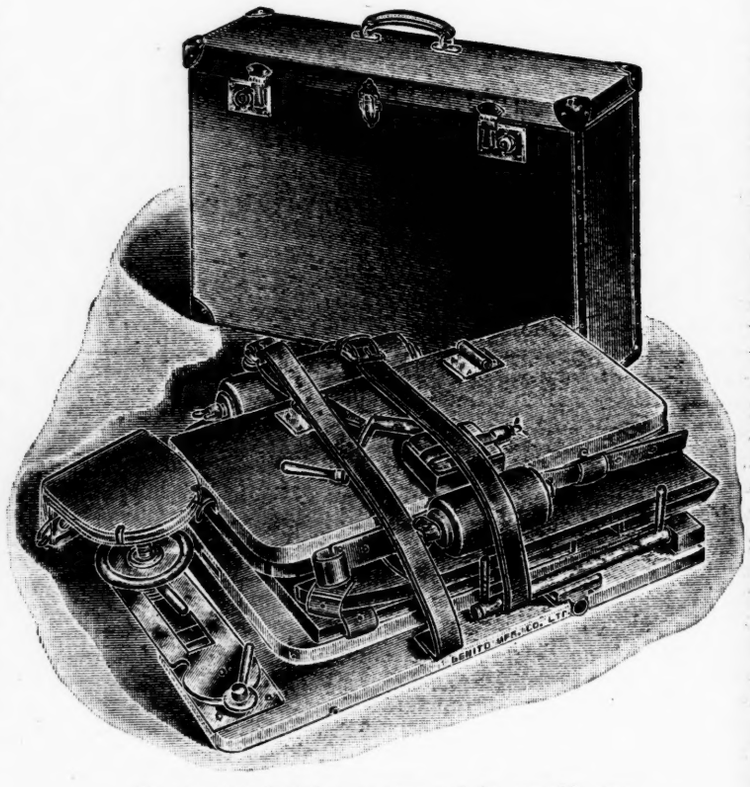

FIG. 4.—The folded apparatus and its portable case.

Clinical Memoranda

Fatal Haemorrhage into Rectus Abdominis Muscle during Pregnancy

A case of severe haemorrhage following rupture of a rectus muscle appears to be worth recording, in view of the fact that it must be unusual.

CLINICAL HISTORY

A multipara, aged 30, who had had five children all weighing 10 to 12 lb., was expecting her sixth child on February 17. She had always been a healthy woman though very stout, and during the pregnancy no albumin was present in the urine. Just after Christmas she had a cough and complained occasionally of a pain in the left upper part of the abdomen. The husband stated that it was a dry cough and that his wife had to hold her abdomen while coughing. At 11.30 p.m. on February 7 following a bout of coughing she had a sudden severe pain in the left side of the abdomen, and felt that she was dying.

She was seen by a doctor at 9 a.m. on February 8 and was transferred to the Farnham County Hospital. On admission she was extremely pallid and collapsed, the pulse was scarcely perceptible, and there was marked respiratory distress with slight cyanosis. Her condition suggested a severe haemorrhage. The abdomen was very large, but not tense or rigid, or, so far as could be judged, tender. The uterus was large and flaccid. The wall seemed to be thin and the outline was ill defined. Foetal parts could be plainly felt nearly up to the costal margin on the right side but not in the upper left quadrant, where there was an ill-defined resistance. There was nothing to suggest free fluid in the abdomen.

It was decided to give a blood transfusion and open the abdomen, but although a donor was obtained and grouped within half an hour the patient died before this could be done.

PATHOLOGICAL FINDINGS

At the post-mortem examination the left rectus sheath was found to be grossly distended with blood and resembled a large sausage-shaped balloon extending from the pubes to the lower ribs. Three pints of blood and blood clot were removed from the sheath and a long jagged tear was found in the posterior surface of the muscle belly at the junction of its lower and middle thirds. Small tears and evidence of old haemorrhages were found in the upper segments of the muscle. Owing to laceration the end of the ruptured vessel was not found, but it seems probable that it was the deep epigastric artery, as it is unlikely that such severe haemorrhage could have occurred from a vein.

The uterus, which was normal except for rather an excess of liquor amnii, contained a normal male child weighing about 9½ lb. The liver and heart showed some evidence of fatty degeneration, but the remaining organs appeared healthy.

COMMENTARY

The rectus muscle had obviously been weakened by the combination of several large pregnancies and a very fat pendulous abdomen, and had given way under the strain of coughing. Several small haemorrhages had occurred in the month preceding death, but the cough on February 7 had caused an extensive rupture of the muscle and had opened up a big vessel which had bled profusely. It was unfortunate that she did not reach hospital until it was too late for anything to be done.

In the *Bulletin of the Johns Hopkins Hospital* (1937, **61**, 295) T. S. Cullen and Max Brodel give a good account of lesions of the rectus abdominis muscle simulating an acute intra-abdominal condition. They state that haemorrhage into or beneath the rectus abdominis muscle is rare. It may take place in any part of the muscle, but it is usually below the umbilicus. In some cases the muscle is torn; in others, branches of the deep epigastric artery or vein have ruptured; in still others there has been both rupture of the muscle and also a tearing of one or more blood vessels.

The posterior sheath of the rectus is absent in its lower portion; consequently where the bleeding is below the umbilicus the blood usually lies between the muscle and the peritoneum. This causes peritoneal irritation and produces symptoms simulating in nearly every particular those of an acute abdominal lesion. Occasionally rupture of the rectus muscle has been caused by direct violence; usually, however, the patient has for some time been suffering from some debilitating disease, such as typhoid or influenza, and a slight exertion has been followed by sudden abdominal pain with the development of the haematoma. Cases are quoted where rupture of the rectus has been associated with gall-bladder disease and heart disease as well as pregnancy.

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Chemotherapy of Virus Infections

In view of the results obtained by Rosenthal, Wooley, and Bauer (1937) and by Dochez and Slanetz (1938), suggesting that drugs related to sulphanilamide had some curative effect on animals infected with lymphocytic choriomeningitis and distemper virus respectively, a series of experiments has been carried out to test the effect of these drugs on virus influenza in mice. Our experiments have been confined to para-aminobenzenesulphonamide, 4 : 4′diaminodiphenylsulphone, 4 : benzylideneamino-4′ aminodiphenylsulphone, sodium sulphanilyl-sulphanilate, and 4:4′diaminodiphenylsulphone glucoside.

Groups of mice weighing 10 to 12 grammes, usually ten in a group, were infected intranasally under ether anaesthesia with 0.05 c.cm. of falling dilutions (either 10^{-} to 10^{-6}, or 10^{-1} to 10^{-6}) of sterile gradocol filtrates of influenza virus (W.S. strain, titre 10^{7} m.i.d./c.cm. in mice). Immediately after, and on each subsequent day, they were given by mouth a dose of drug which experiment had shown was well tolerated by uninfected animals. Adequate controls were provided. After a week those animals which had not already died of influenza were killed and the degree of influenzal consolidation of their lungs noted.

Results

Four hundred mice were used. In no case was there any reduction in the mortality of treated animals infected with doses of virus fatal to the controls. Indeed, animals treated with para-aminobenzenesulphonamide and 4-benzylideneamino-4′aminodiphenylsulphone died sooner and showed a higher mortality and more extensive lung lesions at all infective dilutions of virus than did the corresponding controls. Between animals treated with 4:4′diaminodiphenylsulphone or sodium sulphanilyl-sulphanilate and the controls there was no significant difference. Although animals treated with 4:4′diaminodiphenylsulphone glucoside after infection with large doses of virus showed no advantage over the controls, there appeared to be a small but consistent and significant difference in favour of the treated animals when the virus inoculum was reduced to 10 or 100 m.i.d.

It is possible that drugs of the sulphanilamide group may be used to treat the secondary infections in human influenza. These experiments suggest that care should be exercised in the choice of the drug used, and that of those tested by us 4:4'diaminodiphenylsulphone glucoside is the drug most worthy of trial.

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Digitalis Poisoning in a Child—Recovery

The case reported below is a further example of the risk of dangerous drugs being carelessly left where children can obtain them. The interest in this record lies in the history of the effects of a single dose of 1/50 grain of digitaline upon a child of 3 years, and the response to treatment with atropine and strychnine; it was noted that atropine was more effective than strychnine, and both than caffeine sodium benzoate, in raising the pulse rate from the state of digitalis bradycardia. There is also an indication of the time required for elimination of the drug.

A child, aged 3 years, was admitted to the Belfast Hospital for Sick Children on June 5, 1937, with a history that he had swallowed granules of digitalin (nativelle). The evidence pointed to his having consumed twelve tablets, each 1/600 grain (totalling 1/50 grain of digitalin), at 9.30 a.m. on the previous day. He refused his dinner at 1.30 p.m., and in about two hours began to vomit and have loose motions. He had been subject to attacks of "acidosis," and consequently the gastro-intestinal irritation was not associated with the consumption of the granules; the mother thought she had made him spit out all the granules when she first discovered that he had been in possession of the bottle. Nothing apart from the vomiting and diarrhoea was noticed until 7.30 a.m. on the day of admission, when his mother noted that the pulse was slow. He was seen by his doctor and admission to hospital advised.

On admission irregular systoles were noted, but there were no enlargement of the heart or murmurs. The average pulse rate was 84. There was some incontinence of urine. He was given 1/64 grain of strychnine hydrochloride and hourly records of the pulse rate were made. The record showed that by 6 p.m. the rate was 100, and this was maintained until midnight; then there occurred a gradual fall, until at 9 a.m. on June 6 the rate was 52. The strychnine was repeated, and the rate increased within an hour to 80, and at 11 p.m. atropine sulphate, 1/100 grain, was given. The result of the atropine was to raise the rate to 98 at 1 a.m. There was a steady fall from this level until at 7 a.m. it was 60, when the strychnine and atropine were repeated, the rate rising to 88 within an hour, falling to 70 at midday, and rising again to 90 at 3 p.m. This rate was maintained with some consistency until evening, when a fall to 54 began, starting at 8 p.m. At midnight 2 c.cm. of caffeine sodium benzoate were given, but by 2 a.m. the rate had not increased, and the strychnine–atropine was administered with the result of a rapid rise to 88 within two hours. The pulse rate did not give any cause for further alarm and in a few days registered 66 to 70, treatment being discontinued. Unfortunately an electrocardiogram was not taken on admission, but one taken on the third day did not show any abnormality of rhythm.

The after-history is that the boy has remained without any ill effects. He had an attack of pneumonia in October, 1937, and of measles in January, 1938. He has been singularly free from attacks of "acidosis" since his experience!

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Reviews

CHRONIC RHEUMATIC DISEASES

A Survey of Chronic Rheumatic Diseases. Contributed by contemporary authorities in commemoration of the Bicentenary of the Royal National Hospital for Rheumatic Diseases, Bath, 1738–1938. Compiled under the direction of the following Editorial Committee: R. G. Gordon (Chairman), G. P. R. Aldred-Brown, J. Barnes Burt, F. J. Poynton, R. Waterhouse, G. D. Kersley. (Pp. 338; illustrated. 18s. net.) London, New York, Toronto: Humphrey Milford, Oxford University Press. 1938.

Rheumatism has bulked large in the news these last weeks as the International Congress on Rheumatism and Hydrology has followed the course of earlier invaders of this country from London up the Thames valley to Oxford, and thence to the warm springs of Bath. Whether by chance or design, their visit coincides with the bicentenary of the Royal Mineral Water Hospital at Bath, which is commemorated in a more formal and permanent manner by *A Survey of Chronic Rheumatic Diseases* contributed by contemporary authorities and edited by a committee of Bath physicians. Here are more than a score of essays on the history, aetiology, morbid anatomy and physiology, classification, and treatment of the rheumatic diseases. The general lines of classification and the clear-cut distinction of rheumatoid arthritis, osteo-arthritis, and gout are now universally accepted. Indeed, it is probable that separation has been almost too complete, neglecting the links that bind these diseases together and the occasions when one is succeeded by or associated with another. Dr. Poynton concludes that the rheumatisms are more allied to one another than to any other disease, and are a family group among diseases due to a common weakness. "Is it not possible that we may be born with weak connective tissue in which the cells are of poor quality, and that these react feebly to the causes of rheumatism?"

The editorial committee has done its work well, and has produced more than a mere *Festschrift*, for the book gives a complete account of the rheumatic diseases. Professor Aschoff shows how little we know of pathology in general and of rheumatism in particular when we describe these diseases as allergic. Allergy plays no part either in osteo-arthritis, which involves essentially mechanical or metabolic factors in the widest sense, or in rheumatoid diseases arising from specific or non-specific infections. Acute rheumatism, like tuberculosis and syphilis, may enter into an allergic phase, but the therapy of the physician must be directed against the infection. After a summary of the arguments for and against the infectious theory of rheumatoid arthritis, documented with 175 references, Dr. Hench comes down so faint-heartedly on the side of microbic origin as almost to damn the infectious theory. It would appear from this survey that we can recognize the manifestations of the different rheumatic diseases with great accuracy and we can relieve their symptoms; but we know little of the aetiological factors and their relative importance, and we have scant power to influence the underlying disease process. The most enthusiastic supporters of gold treatment cannot deny that many cases of ankylosing spondylitis and of rheumatoid arthritis in the florid stage are resistant to treatment. It may be that we await some entirely fresh conception of the rheumatic diseases which will put infection in a secondary role, in the same way that conditioned deficiency has replaced haemolysis as the essential fault in pernicious anaemia. The remissions of rheumatoid arthritis with jaundice, and to a less extent with pregnancy, show that inflammatory changes in joints

can improve remarkably when the internal environment of the organism is altered. The acute attack of gout is associated with all the local signs of inflammation—heat, redness, oedema, and polynuclear exudation—and with general disturbances such as increase in the erythrocyte sedimentation rate, yet all these phenomena can be satisfactorily explained by the accumulation of uric acid in the blood and its deposition as sodium biurate in the tissues. In the pursuit of infection as the culprit in rheumatoid arthritis we may be following the wrong trail.

In what other ways can the aetiology of the rheumatic diseases be attacked? It is notorious that certain forms of rheumatism are associated with or affected by damp climates, but there is need for many more data on their geographical distribution, their occupational incidence, and their relation to changes in weather. Our English climate changes too rapidly for us to correlate the incidence and severity of rheumatism with the hot and cold fronts of air masses which accompany the passage of cyclonic disturbances, but within our Empire every range of climate is available for field observations. Dr. Godfrey reports to the International League against Rheumatism that he has never seen a true case of rheumatoid arthritis from the northern half of Australia, where tropical or subtropical climates obtain, but he has seen many cases from the southern half, especially the eastern fringe of the continent, where the altitude, prevailing winds, and rainfall create a much cooler climate. Again, the comparative pathology of rheumatism has not yet had the study it deserves, though it is known that diseases which closely resemble acute and chronic rheumatism in man occur in domestic animals. Nor have clinical and experimental observations on man yet been exhausted. The experiments of Lewis and Kellgren, carried out with the simplest of technique, are bringing precision to our ideas of fibrositis and muscular rheumatism and of the reference of pain from the fasciae and muscles, while Halliday has shown how often pain in the locomotor system is perpetuated by purely psychogenic factors.

So vast are the problems raised by rheumatism and so numerous are the sufferers that it has been questioned whether the voluntary hospitals can cope with them, and there is undoubtedly need for the provision of local clinics and special institutions for treatment. Whatever developments occur along these lines it seems certain that the great spas will remain centres of specialized knowledge and equipment for the investigation and treatment of rheumatism. For 200 years the Royal Mineral Water Hospital at Bath has opened its doors to poor people who have suffered from rheumatism, and latterly more than 95 per cent. have come from a distance. It has now become necessary for the hospital to seek a new site and more ample accommodation for its work in treatment and research. Doubts may sometimes be felt about the wisdom of specialization or of *ad hoc* research, but unless special centres exist for the study of rheumatism the danger is rather that the profession may tolerate it as one of the inevitable ills of humanity. This *Survey* is therefore a reminder and a stimulus—a reminder of the extent of the problem and our present knowledge, and a stimulus to further work.

MEDICAL PRACTICE IN THE RAW

Behind the Night Bell. By F. G. Layton. (Pp. 289 ; 8s. 6d. net.) London: Faber and Faber. 1938.

Now that various and not always creditable aspects of medical practice are constantly before the public eye it is a relief to read a book which deals with the life of the slum doctor in a sane, accurate, and objective manner. Dr. Frank Layton has worked as a general practitioner for more than forty years, mostly on the edge of the Black Country. As he says in his introduction, it has not been easy. Doctoring poor people seemed at the start almost as hopeless as building a house without tools or building materials. He always found building materials, however, in men, women, and children, for he soon appreciated the real truth of doctoring: that while his immediate job was to deal with their bodily ills, his ultimate job was to try to understand the people themselves. One of his chief objects in writing this volume of reminiscences and reflections was, he said, to point out how real a thing psychology—merely another word for understanding—has become in the life of a hard-worked general practitioner. The result, he fears, may seem somewhat inconsequent. That is no fault, for so is life, and the book would not be lifelike if it were tidy. He is not a crusader and has no King Charles' heads. He has some outspoken things to say, however, about one or two aspects of the official mind, particularly in its tendency to certify as mentally defective young people who are really suffering from adolescent muddle. His chapter on neurosis and its purposefulness is very wise and quite in accordance with the results, usually expressed in less simple language, of psychological research. He is much to be trusted on the mental aspect of illness and trouble, for he has learned his psychology where Jung tells the doctor to learn it—in contact with human beings in every situation. It is to be hoped that many people, both doctors and laymen, will read this book, for it contains the intangible but true and eternal meaning of medical practice.

TREATMENT OF TUBERCULOSIS

Therapie der Tuberkulose. Edited by Dr. J. Berberich and Dr. P. Spiro. 2 Volumes. (Pp. 845 ; 25 Fl. unbound ; 28.50 Fl. bound.) Leiden: A. W. Sijthoff's Uitgevers Maatschappij N.V 1937.

It is increasingly being realized that tuberculous disease even when apparently localized in one organ must be regarded as a systemic infection ; such a view assists in the diagnosis, prognosis, and treatment of the disease. The frequent artificial distinction in textbooks between pulmonary and "surgical" tuberculosis is therefore to be deplored. Professor Berberich and Dr. Paul Spiro, with the collaboration of workers in various countries, have attempted to produce a treatise on the therapy of tuberculosis in which the "unity" of tuberculous disease is kept in the forefront. The title underestimates the scope of the book, which summarizes the modern view on most aspects of clinical tuberculosis.

The first volume contains discussions of the problems that lie at the basis of the treatment of tuberculous disease anywhere in the body. Professor Fraenkel of Heidelberg writes an excellent historical sketch ; for fifty years he has witnessed and himself assisted in the steps that have led from the first paper on tuberculin read by Koch to the most modern developments in the surgical treatment of phthisis. A fairly complete account of the bacteriology of the tubercle bacillus is given by Braun of Istanbul. Walter Pagel of Papworth, whose work is becoming more and more known in this country, writes three authoritative chapters on immunity, the pathological basis of healing processes, and the anatomical and experimental findings after therapeutic procedures. Another excellent chapter, by Fraenkel, discusses the role of radiology in prognosis and treatment of tuberculosis. The sections on tuberculin in diagnosis and treatment, on the

other hand, have less to commend them. Wallgren follows with a brief discussion on protective vaccination, the use of dead bacilli being too summarily dismissed. Epidemiological considerations receive scanty treatment by Holló of Budapest. The remainder of the volume consists of a good unbiased account of the chemotherapy of tuberculosis by Brieger, now attached to the Research Department of Papworth, and of an interesting discussion, by the same author, on occupational therapy and social rehabilitation, including a description of the modern physiological methods used to determine working capacity.

The second volume comprises individual accounts by various authors of the treatment of tuberculosis in the different organs and systems. The quality of the chapters varies greatly, as is inevitable in a many-author production. The accounts of the treatment of tuberculosis of the upper respiratory tract by Berberich, of the surgical treatment of phthisis by Holló, and of the treatment of tuberculous eye conditions are particularly good. Short discussions are included on tuberculosis in old age, tuberculosis and marriage, tuberculosis and pregnancy, tuberculosis and diabetes, and on the psychological aspects of tuberculosis.

This work is a useful addition to tuberculosis literature. It is very readable. But the almost total absence of illustrations reduces the value of the book except to those who are already familiar with the practical application of the subjects discussed in it.

FUNCTIONAL INVESTIGATIONS

Les Explorations Fonctionnelles. By Noël Fiessinger. (Pp. 432; 65 figures. 70 fr.) Paris: Masson et Cie. 1937.

Probably at least half the patients in the medical wards of any general hospital to-day have been admitted "for investigation," and in this book Dr. Fiessinger has endeavoured to collect and discuss the methods available for this purpose. It is unfortunate that clinical and laboratory investigations are so often regarded as antithetic when they should be complementary, for the special examinations permit one to see further and better than simple observation of the patient. Dr. Fiessinger recalls two clinical histories of Boerhaave—Jean, Baron de Warsenaer, who succumbed to a pneumothorax following perforation of an oesophageal ulcer; and the Marquis of Saint Auban, who died of a mediastinal tumour. How could such cases be diagnosed before the introduction of special methods of investigation? The author discusses in simple language the methods and indications for examination of the various organs, giving the theoretical basis and interpretation of the various tests but not going into details of procedure.

The book is addressed to the clinician, and not to the pathologist or technician. Nearly half of it is devoted to the liver and the kidneys, and this seems out of all proportion to the reliability and clinical value of tests of these organs. The blood-forming organs are well done, with good accounts of spleen and marrow puncture. On the other hand, the section on the endocrines is poor, surprisingly so when one learns that Dr. Fiessinger is the author of two books on endocrinology. In the discussion of Addison's disease no reference is made to the value of radiology and of low salt diets in diagnosis. There is a good account of the sex cycle and sterility in the female, but nothing about the male. We also looked in vain for radiography of the heart, kymography, tomography, encephalography, and ventriculography. The book is therefore lopsided and incomplete. It is based on a series of lectures, and it gives the impression that the author had begun with high enthusiasm, had then got lost in the thickets of hepatic and renal function, and finally had to finish his course in haste. It cannot be recommended for general use, but will be of great interest to more advanced students in giving an indication of French methods. There are no references to the literature, no bibliography, and no subject index.

THE POINTING TEST OF BÁRANY

Der Zeigeversuch. Prüfung einiger Voraussetzungen für seine klinische Brauchbarkeit. By Wilhelm Behrman. Uppsala: Almqvist and Wiksells Boktryckeri-A.-B.

This monograph presents the results of a detailed investigation into the pointing test of Bárány. A survey of the literature shows that different workers use different methods and have not been able to agree as to which is the best. In this clinical investigation eleven different techniques have been tested, and of these the most reliable is shown to be that in which the extended arms held above the head are simultaneously brought forward to the horizontal against a mark with the eyes closed. Any error is allowed to remain uncorrected on repeated pointing. Using this technique on a large number of normal subjects, the variability both for spontaneous pointing and for pointing after stimulation has been worked out. Detailed tables of the fields of variation for the different techniques are given, and should be of great help in determining whether a patient has pointed spontaneously within or without the limits of the field of variation. For pointing after stimulation the field of variation increases considerably, and may sometimes be double that of spontaneous pointing.

This is a valuable addition to the literature of the labyrinth, and may be read with advantage by all those interested in neuro-otology.

A TREASURY OF ROUTINE PROCEDURES

Practical Procedures. Edited by Sir Humphry Rolleston, Bt., G.C.V.O., K.C.B., M.D., F.R.C.P., and Alan A. Moncrieff, M.D., F.R.C.P. (Pp. 293; 66 figures. 10s. 6d. net.) London: Eyre and Spottiswoode, Limited. 1938.

We are most of us by now familiar with those attractive instruction books which the makers kindly send to us when we buy a new car. We study them with just that degree of intelligence and interest which Nature has vouchsafed to us in the matter of motor cars. Now has come a somewhat similar kind of book called *Practical Procedures,* edited by Sir Humphry Rolleston and Dr. Alan Moncrieff, with a preface by Sir David Wilkie. In the course of seventeen chapters we are told by a team of acknowledged experts just how to carry out any of the common routine practices which each of us in his daily round may find it necessary to perform. As Sir David Wilkie points out, one of the advantages of holding house appointments after qualification is that these methods are learnt then as a matter of course. By no means all are so fortunate as to serve as hospital residents; to these, and to the older men to whom some of the procedures described may appear slightly novel, this book should make a particular appeal. A synopsis of the contents will serve to indicate the scope of the book: plaster-of-Paris technique, administration of fluids, indications and technique for blood transfusion, the value and interpretation of blood counts, diagnosis and treatment of poisoning, estimation of blood pressure, technique of aspirating pleural effusions, the use of two-way and three-way syringes, catheters and the avoidance of sepsis, clinical examination of the urine, circumcision in children, injection treatment,

minor surgery of the skin, local anaesthesia, soft tissue injuries, lumbar punctures, syringing the ear.

There is a hostelry in the City of London with a world-wide reputation for the unique excellence of its steak pudding with etceteras. The feeling of satisfaction and repletion with which the gourmet rises after sampling that pudding may be experienced in a more spiritual sense by the keen practitioner who takes the trouble to read this book. It need only take him a short time, but an hour or two will seldom have been spent more profitably, for *Practical Procedures* is a veritable Golden Treasury of most valuable information.

Notes on Books

Normal and Diseased Regulation in the Human Organism (Jena: Gustav Fischer, RM. 12 paper, RM. 13.50 board) consists of twenty-five lectures delivered before the International Postgraduate Course of the Berlin Academy for Postgraduate Instruction from October 26 to 31, 1937. Among the numerous interesting problems discussed attention may be drawn to the following papers: The action of the internal secretions, by H. W. Bansi of Charlottenburg; diseases of the pancreas and hormonal metabolic disturbances, by Professor Friedrich Umber of Berlin; regulation of the acid-base equilibrium, by K. Gollwetzer-Meier of Hamburg; regulation of sleep, by H. Schriever of Berlin; regulation of organic metabolism, by Herman Bernhardt of Berlin; regulation of growth and development, by Professor Cortius of Berlin; allergy and inflammation, by Professor F. Klinge of Münster; regulation of the circulation, by S. Dietrich of Berlin; reciprocal action between skin and internal organs, by Professor H. Gottron of Breslau; the connexion between metabolism, circulation, and respiration, by Professor Hermann Rein of Göttingen; the relations between hormones, vitamins, and ferments, by Professor Werner Kollath of Rostock; and the endocrine system and the organ of hearing, by Hermann Barth of Berlin.

The little work entitled *Fevers for Nurses* (Edinburgh: E. and S. Livingstone, 5s.) by Dr. GERALD E. BREEN, senior assistant medical officer at the North-Eastern Fever Hospital (L.C.C.), is based on lectures given by him to nurses in recent years. In addition to a concise and lucid account of the diseases usually admitted to fever hospitals, chapters deal with venereal disease, the eye, ear, nose, and mouth, operative procedures and manipulations, the dosage of drugs in common use, and a selection of questions set in State examinations for fever nurses during the last three years.

Dr. W. F. CHRISTIE, whose recent exceptionally clear and concise book on obesity was reviewed in these columns, has now produced a monograph, *Ideal Weight*, which is virtually a summary of physiology in its relation to body weight, in such a way as to be easily understood by the lay person. Calories and similar terms are made clear to the non-technical mind, and the work contains a very useful analysis of some of the common foodstuffs and the food value of various dishes and drinks. Diets suggested for the maintenance of the optimum weight in patients who have already reduced by drastic means are explained in full, and will be found to be of the greatest help. In short, the book is a useful adjunct to his previous work on obesity. It is published by Heinemann at 5s.

A series of papers by Dr. J. GRANDSON BYRNE on *The Physiology of the Middle Ear* is published in book form by H. K. Lewis and Co. at 18s. The study has been designed to demonstrate whether the ossicles with the tensor tympani and stapedius muscles act together as an apparatus of accommodation analogous to the ciliary muscle of the eye. In studying the problem the question of reciprocal innervation has to be investigated. The method adopted is to examine the hypersensitiveness of the motor mechanism to adrenaline after section of the post-ganglionic paths supplying the muscles. For example, after interruption of the efferent path supplying the tensor tympani, the retracting mechanisms in the tensor tympani are tested with adrenaline. The middle ear is left intact and kymographic tracings are taken directly from the membrana tympani of the living animal. The author considers that his experiments, of which full protocols are given, show an analogy between the mechanisms of the tensor tympani and the ocular muscles concerned in accommodation. The work is an elaborate study on the mechanism producing proptosis and retraction of the membrana tympani, examined in great detail.

Preparations and Appliances

PROCTOSCOPE FOR INJECTION OF HAEMORRHOIDS

Dr. PHILIP H. DALGLEISH (Hull) writes:

Having been dissatisfied for some time with all the various types of proctoscope on the market, I have devised a model for use in the injection of haemorrhoids. The advantages of this new model are that the whole operative field is visible

at the same time, the haemorrhoids do not project into the lumen of the instrument, and there is no obturator to cause discomfort to the patient and be a nuisance to the operator.

The instrument has been made for me by Messrs. F. Davidson and Co., who are supplying it with illumination from a battery in the handle or from a separate battery.

AN ERGOT PREPARATION

"Neo-femergin" (Sandoz Products, 134, Wigmore Street, W.1) is a mixture of two parts of ergotamine tartrate and one part of ergometrine (ergobasine) tartrate. The investigation of the ergot alkaloids has been a long and difficult process, but it would appear that the one most recently discovered—namely, ergometrine—is the most important member of this group on account of its rapid action. Ergotamine, on the other hand, is characterised by a prolonged action which is exerted slowly. The combination of the two alkaloids in "neo-femergin" is intended to have an effect which is both rapidly produced and long continued. Messrs. Sandoz have prepared an interesting pamphlet which gives an account of the history of the ergot alkaloids and of pharmacological and clinical studies made with "neo-femergin." They consider that the compound is particularly well suited for post-partum use.

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INSULIN FOR SCHIZOPHRENIA

Encouraged by the favourable influence of insulin on withdrawal symptoms occurring in the treatment of morphine addiction, Manfred Sakel[1] started the insulin treatment of schizophrenics in the Vienna Psychiatric Clinic, and made the first communication on his results in 1933. Since then the interest aroused has been great, and the treatment, which rests entirely on an empirical basis, has now been tried in Switzerland, Poland, Hungary, Yugoslavia, Germany, Russia, France, and Norway, as well as in this country and the United States. The subject had advanced so far by May of last year that an international congress was held in Münsingen, Switzerland, at which workers from different countries compared their results; it was computed that by then some two thousand schizophrenics had been treated by Sakel's method. The atmosphere of enthusiasm at the congress pervades nearly all the addresses published in the report,[2] and subsequent publications seem to show no slackening of interest. But it has not yet been possible to reduce the difficulties and dangers of insulin treatment below a certain level. The attempts of some workers, particularly in America, to obtain results with hypoglycaemia insufficient to produce coma, with treatment at longer intervals than once every two days and with a reduced number of treatments, have been attended with but indifferent success.

Enough insulin must be given in the fasting state to produce coma, which should last one to one and a half hours before being interrupted; from sixty to ninety such comas may be required before all possible benefit has been obtained. Sakel has laid it down that the corneal reflexes must be absent, or at least that there should be an extensor plantar response, before the coma can be considered deep enough. In such a state the patient is for all practical purposes in a state of profound anaesthesia and has to be watched continuously by eyes skilled to detect any change in his condition. Such complications as epileptic fits and failure to come round after glucose has been given by intranasal tube, as well as the fortunately rare cardiovascular collapse, require the immediate intravenous administration of glucose. If the risks are great the rewards may be considered to outweigh these in view of the intractable nature of the disorder. Those who have employed this method of treatment have observed that a change in the patient's mental state coincides with the daily hypoglycaemia and that this change tends to last for a period that increases progressively after the termination of each coma; finally, in the favourable cases the change for the better persists. Dr. Müller reported to the Swiss congress that of the 495 cases which had then been treated in Switzerland 40 per cent. had made a full social recovery. The recovery rate was 57 per cent. in those patients who had been ill for less than one year. Alleviation of the symptoms is claimed even in patients obviously beyond hope of recovery; withdrawn and difficult patients have become more social and able to behave in a more normal manner. It is suggested that treatment with insulin produces a better type of remission—and this has been estimated to occur naturally in from 5 to 25 per cent. of cases—but whether it also prolongs the length of the remission is at present not known: much further research will be required before this point, and many others, can be established.

The voices of warning and scepticism have not been wanting amidst the general enthusiasm. Professor Adolph Meyer has drawn attention to the difficulties of making an accurate prognosis and to the impossibility of saying how a treated case would have progressed without treatment. It is clear that if the schizophrenics have been specially selected for treatment their hypothetical recovery rate in the absence of special treatment cannot be fairly deduced from that of an average group. It has even been suggested that not all the patients treated have been genuine cases of schizophrenia, and that their recovery rate has been enhanced by the inclusion of cases with a pronounced affective element. It is, however, difficult to suppose that such a large group of psychiatrists as were represented at Münsingen had so radically altered their standards of diagnosis, when it came to the selection of cases for insulin treatment, as to include many cases of affective disorder; and most psychiatrists would hesitate to back their judgment to the extent of selecting a group of schizophrenics of whom as many as 57 per cent. would make a full social recovery. Less benefit is obtained in patients who have been ill for a long time. In cases of over two years' duration Müller found only 11 per cent. of recoveries; and in twenty-seven cases of over five years' duration Plattner and Frölicher[3] did not observe one. If, then, the treatment is to be of value it should be started as soon as the diagnosis of schizophrenia can be made with confidence. The early diagnosis of schizophrenia

[1] *Neue Behandlungsmethode der Schizophrenie.* Perles, Vienna, 1935.
[2] *Schweiz. Arch. Neurol. Psychiat.* (1937). Ergaenzungsheft zum Band **39**.
[3] *Z. ges. Neurol. Psychiat.*, 1938, **160**, 735.

will become of increasing importance. The attention of medical practitioners will have to be directed to this point, and it will be desirable for students to have special training in the early recognition of the disease. If facilities for treatment are adequate it would not seem justifiable in an otherwise suitable case to postpone treatment with the possibility of a spontaneous remission in mind. Some authors have found a marked worsening of the prognosis with treatment when the illness passes into its second six months. As a corollary, it follows that where the facilities for treatment are less than adequate for the potential demand the most recent cases should in general be preferred.

What the ultimate importance of insulin treatment may be we cannot yet forecast. Much depends on whether it shows any decided advantages over convulsion treatment with cardiazol. The latter, though frightening and disagreeable for the patient, is certainly simpler and safer, and it appears to give comparably favourable results. It is likely to become the method of preference in mental hospitals in which adequacy of medical staffing might easily become a difficult administrative problem with the introduction of insulin treatment. The percentage of failures with both methods, even with recent cases, is considerable; but it may perhaps be hoped that the failures of one method will provide some of the successes of the other. The two methods are not mutually exclusive, and many workers have reported encouraging results from a combination of both. Insulin treatment is drastic and costly in the time and attention it demands of both medical and nursing staffs. It is a method only for employment in a hospital or properly equipped institution and by a fully trained personnel. With increasing experience and skill many of the dangers become less real, but some there will always be. Nevertheless it has stimulated therapeutic activity by what has already been attained, and it will encourage research by the problems it has raised and leaves still unanswered.

SHIPS AND SEAMEN

We are accustomed to think of our Merchant Navy as the finest in the world, and to boast of our ships and our seamen. There is much justification for pride, for our ships are well found and our men still live up to the highest traditions of the sea. The passenger in a British ship has no cause for anxiety as to his safety or comfort, and the merchant ships his goods with confidence in British bottoms. In every respect save one our ships are unexcelled. Save one! Where, then, have we failed to maintain our pre-eminence? In two articles entitled "Ships and Men" the Labour Correspondent of the *Times* has answered this question with full knowledge of his subject, a full sense of responsibility in his criticisms, and a desire to be fair to both owners and men.

It is in the standards of living accommodation for the crews of our ships that we have fallen behind. For many years port medical officers have drawn attention to this, but neither port medical officers nor even the Ministry of Health have anything whatever to do with ships under construction. They are not consulted in matters of hygiene or sanitation, and not until a ship is completed and actually in commission have they any opportunity of inspecting the housing of passengers or crew. While the ship is building everything is controlled by the surveyors of the Board of Trade, who in relation to the hygiene of ships must carry out the Board's "Instructions as to the Survey of Master's and Crew Spaces." The Board has recently revised these instructions, and in new ships crew quarters will be vastly improved, though, as the *Times* Labour Correspondent points out, British ships which do no more than comply with the new requirements will yet be inferior in this respect to the ships of the Northern European countries and the United States. Moreover, well qualified as the Board of Trade surveyors are to deal with everything concerning the seaworthiness of ships and the safety of life at sea, they have no special training in hygiene, and consequently, in the future as in the past, they will, so far as crew accommodation is concerned, often fail to make the best practical use of the instructions which are issued for their guidance. If a Port Health Authority criticizes the crew quarters in a new ship the owner at once replies that they have only recently been passed by the Board of Trade. He feels aggrieved, as do also the Board of Trade surveyors, who no doubt have carried out their instructions literally, but perhaps without a real appreciation of their significance and therefore without careful thought as to how the space allocated to the crew in a particular ship may be fitted out so as to provide the healthiest and most comfortable conditions for the men who will have to make it their home for weeks or months. There still remain a few surveyors, as also some masters, whose standards are those of their own early days at sea, who take the view that what was good enough for them is at least good enough for the present-day seamen: the number of such reactionaries is fortunately dwindling.

Neither the Board of Trade, however, nor its surveyors are primarily responsible for the deficiencies in crew quarters. The former can only issue general instructions, and the latter, though

they can exert considerable influence, cannot enforce more than bare compliance with such instructions. The shipowner and the shipbuilder must really share the blame. In many cases it is quite obvious that nobody has given any serious thought to the comfort and convenience of the crew. The shipbuilder's excuse will be that competition is keen, and that if he introduces into his plans for crew accommodation anything more than the bare requirements of the Board of Trade his tender will be higher than that of his competitors who are quoting on minimum standards. The shipowner will say that international competition is so great that he cannot afford to provide luxuries. But the retort might often be that neither of them takes the trouble to consider what improvements can be effected without additional expenditure. They have a stock type of accommodation, and it is provided again and again. Fortunately there are a number of British shipowners who have always taken a keen interest in the welfare of their crews, and there are British ships with crew accommodation which is unsurpassed by that in the ships of any other country.

The *Times* Labour Correspondent acknowledges that the new Board of Trade requirements mark a great advance in the housing of seamen, but observes that " they will do no more than establish minimum standards of health and comfort." It is, however, the existing ships, built before the new instructions were issued, with which he is most concerned. The life of such ships may be anything from twenty to thirty years, and " in the meantime thousands of sailors and firemen will be going to sea in conditions that are not creditable to a seafaring nation unless shipowners resolve that the accommodation which is below standard shall be improved to the utmost extent." It would be unreasonable to expect an owner to carry out extensive alterations in a ship which he expects to scrap in a year or two, but ships which are not more than, say, fifteen years old ought to be brought as nearly as possible up to the new standards. Recommendations are put forward by Port Health Authorities: these cannot be enforced, but shipowners should nevertheless give them serious consideration and make a sincere effort to put them into effect or even improve upon them. The Board of Trade and Port Health Authorities must work in harmony; there must be no departmental jealousy, no feeling that every suggestion from one is a criticism of the other. The Board of Trade has the greater influence, but the Port Health Authorities have the greater knowledge in matters of hygiene. If they pull together much can be achieved in existing ships; if they disagree, not they but the mercantile marine will suffer in reputation and efficiency.

At the same time the masters and crews of ships must play their part. It is unfortunately true that, speaking generally, standards of cleanliness and personal hygiene are higher among the Scandinavian seamen than among the British. Even Port Health Authorities have tended to advocate the severest simplicity in crew accommodation because it has been found that any elaboration has meant more dirt and greater risk of infestation with vermin. To take one example—wooden sheathing of quarters certainly adds to warmth, dryness, and a general appearance of comfort, but because sheathing harbours bed-bugs it has been discontinued and the bare iron surfaces are simply coated with cork cement to minimize " sweating." This is a most unsatisfactory procedure; a rough surface which harbours dirt is created, and the more it is painted the less efficient it becomes in the prevention of dampness from condensation. Probably close-fitted panels of strong plywood could be made vermin-proof and would make quarters much more comfortable and attractive. Again, wash-basins and spray baths are often neglected, and sometimes brass and copper fittings are stolen, so that the seaman is usually provided only with a bucket for washing. Fresh water, particularly hot fresh water, is wasted if it is too readily accessible, and fresh water means space and weight, which mean money in a ship. Many an owner, and indeed many a port health officer, has been discouraged by the way crews have misused good accommodation, and has wondered whether it is worth while to try to make them more comfortable. The best men go to the best ships and stick to them, and no doubt improved conditions would attract to the sea many more men of the right type. The worst ships get the worst crews, and so a vicious circle is set up. But ashore it is no longer held that the slum dweller will make a slum wherever he is housed. He has to be encouraged and subjected to a certain amount of surveillance, but in the majority of cases he responds to his new environment, and his standards of self-respect, and consequently of behaviour, are raised. So it will be at sea, particularly if the master and his officers will take an interest in the crew's welfare. A harsh discipline, such as was the rule in sailing-ship days, would not be tolerated; but instances could be given of sister ships, in one of which the crew quarters are dirty and untidy and the crew discontented, while in the other the quarters are clean and well kept and the crew cheerful, the difference being entirely due to the personality of the master or the chief officer.

In coasting vessels conditions are often far worse than in foreign-going ships, for quarters are cramped and hours of work excessive. The

men ration themselves and buy in the cheapest market, there is no proper provision for the storage of food, no cook is shipped, the crew are often too tired to do even such cooking as they are capable of doing, and the eternal cup of strong stewed tea completes the ruin of their digestive powers. It is little wonder that when employment ashore is good it is difficult to man the coasting vessel and the tramp steamer.

Tradition dies hard in the Merchant Service. True we have moved on from the salt beef, the salt pork, the weevily biscuits, and the brutal discipline of the days of sail, but only lately have we begun to apply in ships the improvements in living and working conditions which for years have been steadily taking place ashore. Obviously owners cannot be expected to run their ships at a loss; the industry has passed through a long period of depression, operating costs have risen, manning scales have been increased, competition has become keener. But it is contended that if those responsible for the design, the building, and the running of ships had carefully considered how much they could afford to do for the crew, and not merely what was necessary to meet the requirements of the Board of Trade, great improvements would have been effected, and many more of the best type of officer and man would have been, and would continue to be, attracted to a seafaring life.

IS THOROTRAST SAFE?

The suspension of thorium dioxide known as thorotrast has now been used for some years by intravascular injection to produce radio-opacity. The particles are phagocytosed in the reticulo-endothelial system, and a sufficient dose consequently renders the liver and spleen opaque; "hepato-lienography" was the first use to which thorotrast was put. More recently it has been employed mainly for arteriography, which requires a smaller dose, and sometimes for outlining the ventricles of the brain. Thorium dioxide has two rather forbidding properties: it is retained indefinitely in the tissues in which it comes to rest, and it is radio-active. The fact that radio-active substances may consequently be carcinogenic is now generally familiar. The best-known example of this effect was seen in the girls employed in painting luminous dials in an American watch factory; by pointing brushes with their lips they contaminated their mouths with small amounts of the paint, which contained radium and mesothorium, and although the factory concerned was closed in 1924 new cases of osteogenic sarcoma among its employees were still being diagnosed in 1931. We drew attention three years ago to the work of Roussy, Oberling, and Guérin,[1] who first showed that thorotrast is in fact carcinogenic, at least in the rat, and more recently F. R. Selbie[2] has reported the production of malignant tumours in mice by injecting it subcutaneously. The former even recommend thorotrast as a convenient and reliable agent for producing experimental tumours, and Selbie strongly condemns its use in patients. W. M. Yates and E. R. Whitmore[3] take a different attitude, based on the subsequent study of patients to whom thorotrast was given for the purpose of hepato-lienography. These fall into two classes, consisting of sixty-four who died from a few days to three years after the injection, in whom the study could therefore be a histological one of the tissues concerned, and ten who are still alive at intervals of from four to six years after the injection. In the latter the liver and spleen were still radio-opaque at the end of that time, the only change exhibited being some degree of migration to neighbouring lymph nodes; it appears, therefore, as indeed is to be expected, that anyone who is given thorotrast keeps it for life. These patients had experienced no ill effects; they are actually said to be better in some cases than others with the same diseases, such as leukaemia and hepatic cirrhosis, not so treated. The histological study of cases coming to necropsy showed no evidence of any injury to the liver or spleen or of any abnormal cellular reaction there, and a subcutaneous fibrous nodule due to escape of the fluid during injection showed no proliferative activity when excised four and a half years later. It is not recorded that the bone marrow was ever examined. These findings are encouraging so far as they go, but they will not altogether allay the anxiety felt by some over patients who have been submitted to this procedure. Thorium dioxide is evidently not as actively carcinogenic as radium, which in the case recorded by Ross[4] gave rise to a malignant tumour in less than three years, but there is still no guarantee that the effect already demonstrated in mice will not be paralleled in man. The process in mice is slow, and an equivalent period in human life is unfortunately not less than ten years. Those interested in this subject will find much food for thought in the recent review of the thorotrast literature, based on 135 original papers, by Reeves and Stuck.[5] In the view of these authors there are serious contraindications to almost every form of its use, and they are impressed by the fact that most of those who were originally enthusiastic about thorotrast have ended by condemning it.

[1] *Bull. Acad. Méd.*, Paris, 1934, **112**, 809.
[2] *Lancet*, 1936, **2**, 847.
[3] *Amer. J. med. Sci.*, 1938, **195**, 198.
[4] *J. Path. Bact.*, 1932, **35**, 899.
[5] *Medicine*, 1938, **17**, 37.

DASHBOARD DISLOCATION OF THE HIP

Not long ago we drew attention to the "bumper fracture"[6] which may be sustained by an unwary pedestrian. Further investigation of the pathology of motoring has now brought to light the "dashboard dislocation of the hip."[7] Thirteen of a series of twenty cases of dislocation of the hip described by Funsten, Kinser, and Frankel were caused by the impact of the tibia or of the knee against the dashboard of a motor car involved in a collision. The patient who sustains

[6] *British Medical Journal*, 1938, **1**, 291.
[7] *J. Bone Jt. Surg.*, 1938, **20**, 124.

a "dashboard dislocation" is usually a passenger sitting in a front seat beside the driver; the hip is in the flexed and adducted position, and the force of the impact against the instrument panel is transmitted through the femur to the hip-joint. This may result in a simple dislocation or a dislocation with fracture of the posterior rim of the acetabulum. Occasionally a fracture of the tibia or of the patella may be brought about in the same way. A particular lesion is less likely to be overlooked if the ways in which it is commonly caused are known, and recognition of the possibility of bumper fractures and of dashboard dislocations is therefore important. Not long ago a standard textbook on surgery stated that traumatic dislocation of the hip is rare, and, as a type of injury apt to give rise to it, instanced the forcible abduction due to a patient having one leg in a moving boat and the other on a jetty. There can be no doubt that the condition is not so rare as was thought and that the motor car is responsible for many of the cases of traumatic dislocation of the hip met with to-day.

HUMAN TUBERCULOSIS OF BOVINE ORIGIN

Last year we drew attention to reports on human tuberculosis of bovine origin submitted to the *Office International d'Hygiène Publique*.[1] Several further notes have now been published.[2] In the U.S.A. the disease is apparently being eradicated as the result of slaughter of all infected cattle and by pasteurization of milk. In 1917 tuberculin tests were carried out on 20,101 animals, and 3.2 per cent. reacted positively. In 1936 there were only 0.7 per cent. of positive reactors among 22,918,038 animals. About 40 per cent. of the population still consume crude milk. This applies particularly to rural districts and small towns, but in towns with a population of 500,000, of all the milk sold 98 per cent. is properly pasteurized. Human pulmonary tuberculosis due to the bovine bacillus is very rare in Italy. Only seven such cases were found among 552 consumptives in 1932 and 1933. Cattle suffering from tuberculous disease must be notified and isolated according to the Italian regulations, and the sheds in which they were kept must be disinfected. Only tuberculin-negative animals may be introduced into herds giving milk intended to be consumed in the crude state, and they must be re-tested every six months. Germany's regulations for the prevention of tuberculosis in young calves are stringent. Australia has no legislation specifically directed to this end, but the incidence of tuberculosis in cattle is low; only about 8 per cent. are infected and "open" cases are rarely seen. The tuberculin test is, however, being increasingly used. In New Zealand, too, this problem is not so serious as in many other countries; about 20 per cent. of extrapulmonary infections in man are caused by the bovine type of bacillus. The report from Poland includes a plea for the setting up of a special commission to decide on the best method of examining market milk for tubercle bacilli, and to arrange for a complete comparative study of the methods of pasteurization practised in various countries. A valuable paper recently published on human tuberculosis of bovine origin is by A. S. Griffith,[3] who states that "the latest findings in regard to this intractable problem should be made widely known, since they prove beyond doubt that bovine tuberculosis is a serious menace which must be fought with the utmost vigour." The Royal Commission on Tuberculosis, in its interim report in 1907 and in its final report four years later, urged the necessity for measures being taken to prevent the sale or consumption of infected milk. Yet this country still has a milk supply so infected that often 5 to 12 per cent. or more of samples of ordinary churn milk contain tubercle bacilli, and more than 40 per cent. of the milking cows in this country are tuberculous. Griffith describes his investigation of the incidence of the bovine bacillus in pulmonary tuberculosis and mentions the results of other workers. In 1922 only four cases of "bovine" pulmonary tuberculosis had been recorded in this country, and none had been noted abroad. At present the total number discovered in Great Britain is 163. In Denmark K. A. Jensen found bovine bacilli in the sputum or gastric contents of 5 per cent. of 1,774 cases of pulmonary tuberculosis; in Holland A. C. Ruys found them in 6.4 per cent. of 204 patients. B. Lange in Germany cultivated bovine bacilli from twelve patients, all "cattle contacts," in three of whom the human bacillus was also isolated.

[1] *British Medical Journal*, 1937, **1**, 980.
[2] *Bull. Off. int. Hyg. publ.*, 1937, **29**, 1649.

INTELLIGENCE AND FAMILY SIZE

The problem of differential fertility is one which is of the greatest practical significance, and it is not unnatural that the relationship between size of family and social status should have been investigated extensively. It is apparent, even upon casual observation, that the members of the wealthier classes have fewer children than members of the poorer classes. The interdependence of family size and intelligence is less easy to ascertain because methods of measuring mental ability have to be devised and standardized before such a study can be undertaken. A recent publication, by Roberts, Norman, and Griffiths,[4] is the third of a series in which work carried out at Stoke Park, under the auspices of the Burden Mental Research Trust, is reported. The quality of this investigation is in all respects of a very high order. The investigators first took very careful steps to standardize the Otis senior group test of intelligence in such a way that the scores of children of different ages could be accurately compared. They proceeded to investigate the distribution of intelligence in the entire community of a selected area by testing every child between specified ages. The accurate material collected in their survey has now been analysed from the point of view of family size, and there are, no doubt, other types of analysis to which the material will lend itself. A comparison of the size of the sibship of each child with the Otis test score in 3,305 cases leaves no room for doubt that there

[3] *Tubercle*, 1937, **18**, 529.
[4] *Ann. Eugen.*, Camb., 1938, **8**, 178.

exists in the community a significant inverse relationship between family size and intelligence: the correlation is −0.224. A parallel study of 1,271 children who belonged to specially selected groups and who were given the Stanford–Binet tests led to similar results, and the corresponding negative association was even stronger when the Binet test was used. The authors give reasons for supposing that the Binet test is a better measure of general intelligence than the Otis test. The partial correlation between intelligence and family size for constant social conditions has been shown to be highly significant by previous studies in the United States. In the Stoke Park investigation, however, differential fertility with respect to intelligence was found to be diminished if the children were first classified according to social status. For this purpose, data from four types of schools which catered for children of different social classes were separately analysed. Within the limits of the highest social class a negative association between family size and mental ability was not detected. The average number of sibs of children in private schools was so small that the reproductive rate it represents must be far too low to ensure survival. The number of sibs was far smaller, even, than would be expected if it were merely due to the superior average intelligence of these children. This fact clearly indicates an association, which is independent of mental grade, between social class and fertility. The survey has been so well conceived that these results cannot be criticized, as the results of some previous surveys have been, on the grounds that the sample of children tested is not representative or that the tests employed are inaccurate. Future investigators who propose to work on similar problems will be well advised to study in detail the methods of Dr. Fraser Roberts and his colleagues.

PAINLESS SELF-MUTILATION

Some almost incredible examples of insensitiveness to pain were mentioned to the Hunterian Society when Dr. J. H. Hunt addressed it on his experiences among Indian fakirs. His remarks related to a sect of Mohammedan fakirs at Hyderabad, whose annual festival, at which self-mutilation occurred, had never before been seen by Europeans. Dr. Hunt was able not only to show flashlight photographs of the dervish-like dances (which took place in their burial ground at night) but also to exhibit metal spikes and skewers which they used in their frenzies. The sect was founded in Persia in the tenth century, the founder believing that the way to heaven was by self-torture, and his descendants followed his example. His fourteenth direct descendant migrated to Hyderabad three hundred years ago, and there the annual festival was continued in his family, with occasional performances in the palaces round about. Lord Curzon, in his *Tales of Travel*, described similar performances which took place in a dimly lit mosque in North Africa, the people, in a cataleptic state, engaging in an orgy of self-mutilation. Dr. Hunt said that apparently no pain was felt, and although punctures and gashes were inflicted they seldom bled. A sharp skewer would be run through the cheek, or, still more remarkable, through the neck, coming out on the other side, or through the abdominal wall, but in such a way as not to touch the peritoneum. The ability to pass a skewer through the neck was the most interesting exploit. If the man were watched it would be noted that he manipulated the other side of his neck with his hand; what he did was to pull the vital structures forward, so that the skewer passed behind the trachea and bronchus and in front of the vertebral column. A manipulation that was outwardly the most horrifying was the easiest to explain. This was the placing of a sharp instrument behind the eye so that the eyeball was levered out; apparently no hurt was sustained and visual acuity remained normal in the eye so maltreated. When these people were children they would put a small stick to the corner of the eye with the result that the eyeball came out a fraction of an inch, and with repetition a complete exophthalmos could be produced. The instrument did not actually touch the conjunctiva; it went into the skin of the outer canthus. Dr. Hunt said that various explanations could be offered for the insensitiveness to pain. Many of these people, through long usage, had a good deal of scar tissue, which was relatively insensitive and did not bleed easily, and this accounted for fire-walking and lying on beds of nails. Drugs, especially Indian hemp, might account for much, but the people swore they did not use drugs. The most likely factor was self-hypnotism assisted by reverberations of drums, which never ceased throughout the performance. The absence of bleeding might be explained by the fact that the instruments made a slight puncture in the skin, and, for the rest, pushed the tissues aside rather than cut them. Suppuration of the wounds was unknown, despite the filthy conditions in which the instruments were kept. In the subsequent discussion some wartime experiences were related in which the victim of a severe wound, although fully conscious, was not aware of his condition until told of it. It was suggested that the booming of the guns had the same psychological effect as the continual drumming in the dervish dance. With regard to fakirs' tricks, Dr. Hunt mentioned that the late Lieutenant-Colonel R. H. Elliot, from his experience of thirty years in India, had declared that every one of the fakir performances could be explained without ascribing supernatural powers. The famous trick of the mango tree which grew before the astonished eyes of the audience, said Dr. Hunt, was pure conjuring, the conjurer diverting the attention of his audience while he substituted larger plants from under his cloak. The rope trick had never been performed in the open with an ordinary rope but only under a tree, where there was a boy in the branches to catch it when it was thrown.

We regret to announce the deaths of Surgeon Vice-Admiral Sir Robert Hill, K.C.B., who was Principal Medical Officer with the Grand Fleet 1916–19 and Medical Director-General R.N. 1919–23; and of Mr. J. Bright Banister, obstetric physician to Charing Cross Hospital, surgeon to the Chelsea Hospital for Women, and consulting obstetric surgeon to Queen Charlotte's Maternity Hospital.

SURGICAL PROCEDURES IN GENERAL PRACTICE

This is one of a series of articles contributed by invitation

INJURIES AND INFECTIONS OF THE EYE

BY

ARNOLD SORSBY, F.R.C.S.

Diagnosis and treatment of the minor injuries and infections of the eye and eyelids do not call for the specialized knowledge and methods that major ophthalmology requires, but minor ophthalmology does none the less necessitate something of the same faithfulness to detail and care in examination. These are acquirements not beyond the reach of the conscientious practitioner. Since the complicated ritual of "inspection, palpation, percussion, and auscultation" is replaced in ophthalmology almost entirely by inspection, the first essential in the treatment of eye conditions—the minor no less than the major—is facility in the use of the inspection lamp, the condensing lens, and the loupe. That amaurosis which has been defined as the condition in which the patient saw nothing and the doctor also saw nothing most definitely has no place in modern ophthalmology. To undertake the diagnosis of an eye lesion without the aid of suitable illumination is folly; to attempt treatment under such conditions borders on malpraxis. Equipped with an irreducible minimum of special information, an average of general knowledge, and the maximum of suitable conditions in the way of illumination, minor ophthalmology falls well within the province of the general practitioner.

Foreign Bodies

The conjunctival sac is a self-flushing mechanism, so that most foreign bodies are washed away automatically, this being helped by the excessive flow of tears caused by the irritation from the foreign body. It is only when a foreign body becomes embedded that mechanical removal is called for. The simplest mechanical procedure, one which works quite well in a large proportion of cases of foreign bodies lightly fixed on to the cornea, is to pull the upper lid on to the cornea and by a few brisk vertical and lateral movements of the lid set the foreign body free. Once it floats freely in the conjunctival sac it is usually washed away. When a foreign body is more firmly embedded in the cornea instrumental removal becomes necessary. The eye should be anaesthetized by the instillation of two or three drops of 4 per cent. cocaine solution, repeated after an interval of two minutes. Whilst the cocaine is exerting its action the eye should be kept closed. When the eye is fully anaesthetized an assistant should keep the lid open, the patient being instructed to open the unaffected eye. It is also the duty of the assistant to concentrate the light on to the cornea, using a condensing lens if necessary. Having located the foreign body with the naked eye when it is fairly large, or with the aid of the loupe when it is small, the operator should proceed to dislodge it by introducing a discission needle behind it. The widespread practice of scratching the foreign body away with a flat spud should not be employed; it is a crude procedure which does not dislodge any firmly embedded foreign body, and it damages the corneal epithelium over a large surface, producing an abrasion. The use of the discission needle is easily acquired, and the one important thing to remember is that manipulations with a fine point should be in a plane parallel to the cornea and not at right angles to it, as otherwise the cornea may be perforated, with dire consequences. Foreign bodies that have been embedded for a day or so generally leave some discoloration of the bed. Unless one is expert at removing tiny particles it is better to leave that alone. The instillation of some antiseptic drops, such as gutt. emulsio acriflavin. 1 in 2,000, or gutt. coll. argentum 1 in 2,000, or gutt. argyrol. 10 per cent., after a foreign body has been removed, is useful. As the cornea remains anaesthetized for several hours it is essential to bandage the eye after this procedure.

Foreign bodies giving trouble are not necessarily always on the cornea. Occasionally much discomfort is experienced from the lodgment of a foreign body, sometimes of surprising dimensions, in the fornix of the upper lid. No search is therefore complete if it only involves inspection of the cornea. The lower fornix is easily seen, and the upper lid must be turned out with due pressure on the fornix to disclose its folds. Foreign bodies of this type are generally quite easily removed with a pledget of cotton-wool, cocainization of the eye not often being called for.

Corneal Abrasion

A baby's finger poked into an eye is a common cause of corneal abrasion; scratching of the cornea by other means is relatively uncommon, if one excludes unskilled attempts to remove foreign bodies. Spontaneous abrasions may sometimes occur as a familial corneal lesion. Abrasions are never silent lesions: they produce extreme irritability, and advice is invariably sought. The irritability does not subside until the epithelium covering the exposed nerve terminals is healed again. The discomfort can be alleviated by the instillation of a mydriatic such as oily hyoscine ¼ per cent. in all patients under 40 and in those over 40 who have normal ocular tension; in addition a pad and bandage should be placed over the eye. In most cases the symptoms subside within three or four days, though they may persist for as long as a week.

Corneal Ulcerations

Trauma is responsible for a large proportion of corneal ulcers. An unremoved foreign body, an infected abrasion, and traumatic loss of tissue can cause a corneal ulcer. The treatment of a corneal ulcer depends entirely upon whether the ulcer is infected or not. The uninfected ulcer has a clean base and clean margins. The infected ulcer has a yellowish or dirty greyish appearance, usually most pronounced at the margins. An uninfected ulcer is treated in the same way as a corneal abrasion. Indeed, there is little difference between an abrasion and a corneal ulcer: in the one the epithelium only is concerned, in the other interstitial tissue is also involved. Where infection has occurred serious consequences may result, even to the extent of the whole of the cornea being destroyed. The sepsis must be combated energetically, and most infected corneal ulcers respond well to carbolization. This is a simple procedure, as follows:

(*a*) The extent of the ulcer is clearly defined by marking it out with two drops of watery fluorescein 1 per cent. instilled

into the conjunctival sac and washed away with two drops of cocaine 4 per cent., the excess fluid being drawn off with clean blotting-paper.

(*b*) The ulcerated area thus marked out is then lightly touched with pure liquefied carbolic acid applied with a match cut down at one end to a fine point, which is soaked in the carbolic acid. The amount of acid actually brought in contact with the ulcerated surface and the infected margins is therefore very small. If an excess of carbolic has been applied it forms a greyish film on the healthy epithelium: this should of course be avoided, but no serious consequences result from the presence of a minute drop of carbolic on the healthy cornea. Special care should be taken with the margins, particularly in the case of a spreading ulcer.

(*c*) The carbolic acid acts as an analgesic as well as an antiseptic, but the procedure is none the less painful, the pain often being more intense an hour after the carbolizing than during the process itself. The discomfort can be alleviated by instilling pure castor-oil drops into the conjunctival sac and bandaging the eye, though bandages should never be applied where there is a mucopurulent discharge. Symptomatic treatment for the pain, such as the administration of aspirin, phenacetin, etc., may be necessary. If a corneal ulcer does not respond to carbolizing the matter becomes an emergency to be left to an expert, for at its best a corneal scar seriously affects vision. Carbolizing can be repeated at daily intervals, but excessive carbolizing is to be deprecated.

Industrial Accidents

Many cases of foreign bodies in the eye, abrasions, and corneal ulcers are industrial accidents. These occur with far too great a frequency; for though excellent protective measures are now available they are unfortunately not widely used. Protective goggles that can be comfortably worn have been devised to overcome the special dangers to which workmen exposed to flying chips of stone and metal are liable. The Home Office Industrial Museum has a large collection of such appliances, and the example of the Royal Eye Hospital, London, where there is a permanent exhibition of different types of goggles and special protective appliances, might well be copied by other ophthalmic centres. Industrial accidents are not confined to minor injuries: intra-ocular foreign bodies are not uncommon, and when they do not lead to the loss of the eye they often seriously lower the visual capacity and limit the industrial efficiency of the victim. Every perforating wound of the eye and every case in which an intra-ocular foreign body is suspected should at once be referred to a properly equipped ophthalmic department. Radiant energy is also a factor in industrial injuries, with a range extending from transient conjunctivitis to cataract formation. These conditions, too, are largely preventable by the use of suitable goggles.

Styes

An isolated stye calls for no further treatment than the epilation of one or more infected lashes, together with hot fomentations. Incision of a stye should be avoided. A spreading crop of styes from the infection of adjacent hair follicles is not infrequent, and makes treatment of the condition tedious. When multiple infection occurs rational treatment aims at increasing the patient's resistance. In addition a course of collosol manganese injections is sometimes helpful, 1 c.cm. being injected intramuscularly at weekly intervals for six weeks.

Blepharitis

Blepharitis is essentially a disease of childhood. It would appear that there is no local exciting factor, but any refractive error present should be corrected. The milder forms of blepharitis respond to washing away of the crusts with bicarbonate solution, 20 grains to the ounce. The lid margins are best washed by means of pledgets of cotton-wool soaked in the solution, and this should be done at night and in the morning. More severe cases require the washing off of the crusts with pledgets of cotton-wool soaked in hydrogen peroxide 10 or 20 volumes and painting the lid margins with liquor tinctorium *B.P.C.* every night. This treatment has the disadvantage of imparting a bluish colour to the lid margin, but it is far more efficacious than the measures usually adopted. It has proved singularly successful at White Oak Hospital, where the severest cases of blepharitis in London school children are treated. The general factor in blepharitis must not be overlooked: the children affected are often undernourished, and attention to their diet and health is essential.

Phlyctenular Ophthalmia

In contrast to the exogenous type of ulceration as represented by the traumatic corneal ulcer there is a large group that is endogenous in origin. Phlyctenular keratitis represents one of the commoner types. While phlyctenular conjunctivitis causes much discomfort, largely on account of the intense photophobia, corneal involvement is a grave complication, not only because the symptoms are much more intense but also because of the sequelae in the form of corneal scarring. In view of the liability to frequent relapses phlyctenular ophthalmia should be regarded as a condition calling for an intensive examination of the child. In practically all cases evidence of tuberculous infection, as shown by the Mantoux test, will be found, though active clinical tuberculosis is the exception. The phlyctenular may indeed be regarded as a spontaneous Mantoux reaction in the cornea of a tubercle-infected child, and every care is to be taken to eliminate contact with tuberculous patients. The general health of the child calls for attention, and a prolonged stay in the country is indicated, particularly in cases in which the cornea is involved. At the height of an attack much can be done to make the child more comfortable. Protection against light can be given by the use of dark glasses, supplemented if necessary by a double shade over the eyes. These shades should be home-made, the material used being some flexible cardboard: the shades generally sold do not readily allow discharge to drain away from the eye, and are often painted with irritating dyes. Where the cornea is involved, gutt. atropin. 1 per cent., 2 drops thrice daily, should be instilled in the affected eye. Various vitamin preparations, as also cod-liver oil, have been recommended as specifics; they are useful in so far as they help to build up the patient. The child with phlyctenular ophthalmia should be regarded as a potential victim of clinical tuberculosis, and the general lines of treatment for this type of patient are more important than a narrow adherence to some special medication. Where the corneal complications of phlyctenular ophthalmia consist of relatively evanescent vesicles which break down, leaving a small ulcer that heals readily, local applications other than atropine drops are to be avoided. The scarring that corneal phlyctenulae leave tends to become less marked with time; where the scarring is heavy, restoration to the normal is helped by the use of ethyl morphine hydrochloride ("dionin"). This, in solution, should be instilled into the eye when all signs of irritability have been absent for at least four weeks, the strength being worked up from 2 per cent. to 8 per cent., increasing by 1 per cent. at fortnightly intervals. The drops should be used once a day only, preferably in the evening, and as they are irritating they should be discontinued at the first sign of irritability of the eye.

Rosacea Keratitis

In contrast to phlyctenular keratitis with its heavy incidence in children, rosacea keratitis is essentially an affection of youngish women suffering from acne rosacea. The corneal lesion may be present when the skin condition is in abeyance, and this affection is to be suspected in cases of recurrent corneal ulceration in women 20 to 30 years of age. Gutt. atropin. 1 per cent., 2 drops twice daily in the affected eye, and dark glasses if necessary, constitute the local treatment where ulceration is active. Of greater importance is the adjustment of any alimentary disorder that may be present. Generally a mixture containing 15 to 20 minims of dilute hydrochloric acid taken by mouth three times a day proves most helpful as hypochlorhydria is commonly present.

THE CANCER CAMPAIGN

Viscount Hailsham presided at the sixty-sixth quarterly meeting of the Grand Council of the British Empire Cancer Campaign held at 11, Grosvenor Crescent, S.W., on April 11. Those present included Lady Barrett, Mr. Stanford Cade, Dr. Malcolm Donaldson, Sir Charles Gordon-Watson, Mr. W. Sampson Handley, Dr. G. W. C. Kaye, Professor J. McIntosh, Mr. W. Ernest Miles, Mr. W. H. Ogilvie, Mr. Cecil Rowntree, Mr. R. H. Jocelyn Swan, Sir James Walton, Sir David Wilkie, and Dr. R. W. Scarff (honorary secretary of the Scientific Committees).

A further sum of £1,338 was allotted for one year for the extension of the national propaganda work being carried out by the Central Propaganda Committee. The committee will now proceed to arrange these free educational lectures in Cornwall, Devon, Dorset, Gloucestershire, Somerset, Wiltshire, and also in South Wales. Dr. Malcolm Donaldson, the chairman of the committee, reported that to date over 700 public lectures had been given in the fifteen English counties which have already been organized. A report was received from the Co-ordinating Committee, which represents headquarters and the principal autonomous provincial councils of the Campaign, concerning the production of a propaganda film to be used in conjunction with the educational lecture schemes. It was unanimously decided that such a film should be produced by the Central Propaganda Committee in collaboration with the autonomous councils.

Investigations in Progress

Sir Charles Gordon-Watson, vice-chairman of the Clinical Cancer Research Committee, reported that the organization for the statistical cancer inquiries in the teaching and special hospitals of London and the hospitals of the London County Council and the Middlesex County Council had now been completed. All these institutions had appointed registrars to take charge of the records at their respective hospitals, and the headquarters arrangements were being perfected to deal with the data concerning over 17,000 new cases of cancer yearly in the metropolitan area of London. Grand Council confirmed the recommendation for the appointment in the near future of a full-time medical secretary and registrar at headquarters for this purpose.

A further grant of £1,000 for one year was placed at the disposal of the North of England Council of the Campaign to enable the "short-wave" investigations to be continued under the direction of Dr. F. Dickens and Dr. S. F. Evans. This work, which is a continuation of that which appeared in the last annual report of the Campaign and in a recent issue of the *American Journal of Cancer*, concerns the investigation of the effect of varying forms of heat upon malignant tissues.

Early Diagnosis and Treatment of Cancer

The incidence, prevention, and treatment of cancer were discussed by Sir Arthur MacNalty, Chief Medical Officer of the Ministry of Health, in an address delivered on the following day at a meeting of the British Empire Cancer Campaign at the Mansion House. The Lord Mayor of London, who presided, explained that the Minister of Health, who was to have delivered the address, had been detained by business in the House of Commons.

Sir Arthur MacNalty said that, although cancer had now risen to second place in the list of fatal diseases in this country, it did not necessarily follow that the causes of the disease, whatever they might be, were becoming more prevalent. Increasing longevity (to-day people lived, on the average, fifteen years longer than they did a generation ago), increased ability to diagnose cancer in difficult cases, and true certification of the causes of death all played a part. The main lines of attack on the disease were prevention and treatment. On the side of prevention it could be said that the study of the causes of cancer was being carried on with great vigour throughout the world, and the boundaries of knowledge had been considerably extended.

In the realm of diagnosis and treatment radium and *x* rays were now associated with surgery, and the large hospitals of the country were now supplied with facilities for treatment by radium. Excluding London, there were at present in Great Britain twenty-two radium centres, of which seventeen were in England, one in Wales, and four in Scotland. The chief national concern was clearly that facilities for early diagnosis and adequate treatment should be readily available to the whole population. That adequate facilities were still far from being readily available appeared from investigations made by the Radium Commission and in the Ministry of Health. The problem was to ascertain how a small number of hospitals specially equipped with radiation plant might serve the whole population; in other words, these hospitals should serve for the purposes of cancer, areas larger than those they normally served. The extension of the sphere of influence of such hospitals and the creation of more treatment centres both offered possibilities as means of approach to the problem; but whatever arrangements were adopted it was evident that to throw a burden of this national kind wholly upon a small number of hospitals would be impracticable.

Need for Joint Efforts

The Minister of Health felt satisfied, and was supported by the views of the Radium Commission, that the position could best be met, and indeed could only be met, by more active co-operation on the part of local authorities. Broadly speaking, the division of function between the voluntary hospitals containing treatment centres and the local authorities would be that treatment would remain with, and be carried on in, the hospitals (the "centres"), while the peripheral "field" work would rest with the local authorities. Another important work was that of bringing to the notice of the public and of medical practitioners the provision of additional facilities. The Propaganda Committee of the British Empire Cancer Campaign had done good work in this connexion, and a wider provision for diagnosis and treatment should lead more people to follow the advice, "Go and see your doctor without delay."

"The general view of the situation," concluded Sir Arthur MacNalty, "is that, even though the results of research may eventually put into our hands one or more means of prevention, their effects cannot be expected to be immediate and striking. Until those effects come to fulfilment we must expect the usual incidence of cancer, and consequently provision of means for diagnosis and treatment cannot be regarded as other than essential."

CRIME AND CRIMINALS

STATISTICS FOR 1936

One reflection prompted by a study of the *Criminal Statistics, 1936*,[1] is the small proportion of all "crime" that is really serious. In 1936 the total number of persons found guilty of offences of all kinds was about 825,000. Of these over 99 per cent. were dealt with by magistrates and under 1 per cent. were tried by jury. Nearly 60 per cent. had committed traffic offences. Nine per cent. had committed indictable offences, of which the great majority were thefts, and the remainder had misbehaved themselves in various non-indictable ways—for example, drunkenness, failure to take out dog licences, and Sunday trading. Of all these offenders, 81 per cent. were fined, 10 per cent. were dismissed with a caution, 5 per cent. were bound over (3 per cent. being put on probation), and 3 per cent. were sent to prison or Borstal. The figure for traffic offences was 13 per cent. higher than in 1935. The curve is rising steadily, but so is that of the total number of vehicles on the road. From 1920 to 1932 there was a continuous decline in the number of persons convicted of drunkenness; since 1932 there has been a continuous increase. It is permissible to speculate whether this is not part of the increasing tendency towards insecurity, pessimism, and chaos which is showing itself in various forms all over the world. On the other hand, the figures for non-indictable assault have shown a steady fall since 1931. Eight times as many males commit indictable offences as females, and the incidence of crime is highest under 14 and drops steadily with the advance in age.

Young Offenders

The increase in crime among persons under 17 continues, but the rise in 1936 was not nearly so great as in 1935—possibly because the population as a whole is settling down to the operation of the Children and Young Persons Act, 1933. This Act, with its provision for the optimistic treatment of young offenders, probably induced many more persons to prosecute children and young persons than would have done so before. The figures show wide discrepancies between the different districts in the use of probation for persons over 17. The percentage for the whole country of adult offenders placed on probation was 19.1. In the Metropolitan police district it was 29, in Hertfordshire 50, in Bradford 45, and in Nottingham City 40. In Liverpool the percentage was only 10, in Manchester 12, and in Leeds 14. In the West Riding of Yorkshire it was 7, and in Durham County 6. In Bristol it rose during 1936 to 21 from 12.8 the year before, and in Glamorgan it rose from 4.8 in 1935 to 10.1 in 1936. Of the juveniles found guilty of indictable offences, 48 per cent. were placed on probation.

The police, of course, know of more crimes than are proved in court, partly because the offender either cannot be detected or for some reason cannot be prosecuted, or because he admits former offences in order that they may be taken into consideration when he is being sentenced for another offence. In 1936 the police knew of over 176,000 larcenies, against 165,000 in 1935. They knew of over 38,000 cases of breaking and entering, against 36,000 in 1935. These figures include a large number of minor crimes. The value of the property stolen in 180,000 cases of theft was under £5 in 79 per cent. and over £100 in only 1.3 per cent. The number of sexual offences known to the police was 4,358, against 3,835 the year before, and the number of cases of violence against the person 2,545 compared with 2,431. In 1936 the police knew of 99 cases of murder of 112 victims over one year old. In 33 cases the murderer or suspect committed suicide, in 61 cases 64 persons were arrested; in five cases no arrest was made. Of these 64 prisoners, eleven were found insane on arraignment and fifteen were found guilty but insane after trial. Ten were acquitted and 23 were convicted. Of these, two were certified insane, thirteen were reprieved and sent to penal servitude, and only eight were executed. The remainder died before trial, were arrested abroad, or were discharged at the police court.

[1] Cmd. 5690. H.M. Stationery Office, 1938, 3s. 6d.

Growing Incidence of Suicide

Five thousand persons committed suicide and over 3,000 cases of attempted suicide came to the knowledge of the police. The steady growth in the incidence of suicide which has been noted since 1921 is accounted for at the Home Office by the increase that has taken place in the higher age groups of the population, for the greater number of suicides occur in the higher age groups. Among men under 55 the suicide rate was lower in 1936 than in 1911; among men over 55 it was a little higher. Among girls and women under 25 it was lower in 1936 than in 1911; among women between 25 and 45 a little higher, and among women over 45 it was considerably higher. The Money Payments Act, 1935, has had the effect which was hoped, of decreasing the number of persons committed to prison for debt and failure to pay other sums due from them—for example, fines, maintenance orders, affiliation orders, and rates.

SCIENCE IN MODERN LIFE

WORK OF THE N.P.L.

The National Physical Laboratory is by no means an aloof scientific institution. Its work, as its annual report testifies,[1] is closely related to the needs of the man in the street—literally in the street, because among the major matters referred to in the present report are the lighting of streets and street noises. A prolonged investigation is taking place in order to ascertain the advantages of lighting schemes of different colours for enabling persons and objects to be picked out on the roads at night.

The Control of Noise

As for street noises, tests in which two hundred listeners have assisted have been carried out to decide how the sound emitted by a motor horn may be effective as a warning without assaulting the nerves. It is recommended that the sound should not exceed 100 phons, the phon being the unit of equivalent loudness recently set up by the British Standards Institution. The motor cycle may be another noise nuisance on the road. Hitherto, owing to the lack of noise-measuring apparatus—and in all this work measurement comes first, and afterwards rectification—the silencing of motor cycles has not been uniformly carried out. A new investigation of the problems of both exhaust and mechanical noise has been started at the Laboratory, using the accurate noise meters and analysers which have now been developed, and it is hoped that the information obtained will enable improved silencers to be designed for the various types of machines in use. The London Passenger Transport Board has also requested the assistance of the Laboratory with a view to the reduction of the noise of tube trains; the noise emitted by aircraft at high speed is receiving attention, and as air raid precautions appear to be a part of normal existence it is just as well that the Laboratory should be placing on a scientific basis the sounds emitted by hooters, sirens, and maroons.

In a noisy world the authorities at Teddington are doing their best to discover the soft pedal. Worse than outside noises of a passing nature are the sounds one is com-

[1] *National Physical Laboratory Report for the Year 1937*. H.M. Stationery Office. (2s. 6d. net.)

pelled to live with indoors, especially with the increasing habit of people in cities to live on the top of one another. The transmission of sound through walls and floors has been studied, and architects have been assisted in the designing of silent buildings. Possibly in flats the source of greatest irritation is the conduction of sound along water pipes, and it has been found that by inserting short lengths of rubber hose in the pipes this trouble can be eliminated. A large amount of work remains to be done, not only in the suppression of sounds we do not want to hear but in the better transmission of sounds that we do. The acoustics of public halls is far from perfect, as witness the frequent difficulty in hearing and the hasty improvisations at Annual Representative Meetings of the B.M.A. Microphones and amplifiers sometimes make matters worse instead of better. We have known a microphone set up such interference in its vicinity that it was impossible to hear the speaker a yard away, while a hundred yards away his voice rolled like thunder. Workers from the Laboratory have been engaged during the year in advising on the acoustical properties, now said to be perfect, of what is probably the most magnificent assembly hall in the world—that of the new League of Nations building at Geneva. A pity if, having got it perfect acoustically, no sounds should be heard there save the echoes of a mausoleum!

Direct Services to Medicine

In two other directions of interest to medicine the Laboratory has lately done good service. It was the publication of its work on the measurement of gamma ray dosage which influenced the important decision at Chicago last September by the International Committee on Radiological Units to generalize the definition of the "roentgen"—the unit of *x*-ray quantity—to include gamma radiation. The employment of gamma rays of radium independently of or in conjunction with *x* rays makes it desirable that both kinds of radiation should be measured in terms of the same unit, and the use of the same unit of quantity has been shown to be practicable. When the "roentgen" was introduced ten years ago the maximum voltage used in *x*-ray treatment was of the order of 200 kilovolts. Nowadays much higher voltages are used, and it is important that satisfactory measurements of quantity should still be possible.

The other matter relates to the risk of explosion of anaesthetic vapours as a result of sparks arising from static electrification in operating theatres. Experiments have shown that it is possible by the movement of blankets and the like to produce electrification of sufficient intensity to give rise to a spark capable of igniting the mixtures of gases and vapours commonly used for anaesthetic purposes. Possible methods of avoiding this risk have been studied, and the provision of earthing chains trailing from operating tables, trolleys, and other equipment on to a semi-conducting floor is recommended, while the use of the partially conducting rubber now available promises to be of value.

An international postgraduate course in malariology will be held in Rome from July 18 to September 17; the language used will be French, and many interpreters will be available for those taking part in it. The fee payable is 1,500 lire and this sum must be received before June 20. The aspects of malaria to be dealt with include haematology of the disease, protozoology, microscopical diagnosis, the pathological anatomy, and clinical considerations, entomology, epidemiology, prophylaxis, field work, malariatherapy from the psychiatric point of view, laboratory work, and a visit to a clinic. Excursions in connexion with this course will be made to various sanitary stations near Rome, Ostia, Venice, and Sardinia. Further details may be obtained from Professor G. Bastianelli, Istituto di Malariologia, Ettore Marchiafa, Policlinico Umberto I, Rome.

Reports of Societies

AIR RAID PRECAUTIONS: ORGANIZATION OF MEDICAL SERVICES

At a meeting of the United Services Section of the Royal Society of Medicine on April 11, Colonel A. G. BIGGAM presiding, a paper was read by Colonel E. M. COWELL on the organization of medical services in air raid precautions.

Colonel Cowell explained that the suggestions he had to put forward were made after three and a half years' experience in a casualty clearing station in France during the great war and nearly four years' work as Red Cross organizing officer in Surrey in connexion with the air raid precautions scheme. Practically every "civilized" country in the world was preparing to defend its civil population against air warfare, including gas. He showed some interesting posters issued by the Soviet Government. In Paris a large number of underground shelters had already been erected, including first-aid posts which were practically hospitals of considerable size. In Berlin a first-aid post was organized at each of the 200 police sub-stations. Something was to be learned from the war in Spain, where, however, gas had not been used. In eighteen raids on Barcelona—earlier than the continuous raiding which took place in the middle of March—over a period of two months 100-lb. bombs were chiefly used and the total casualties were said to be 700 killed and 700 wounded.

All European countries, except perhaps Turkey, could attack these islands by air. The modern high-speed bomber could fly at a height of 20,000 feet and at a speed of 200 or more miles per hour, carrying four or five 500-lb. bombs. A formation of thirty-six machines, attacking a given locality, dropping a ton of bombs in an area with a population of from 30,000 to 50,000 per square mile, might be expected to cause 1,000 casualties by night or 2,700 by day. The ratio of killed to wounded was likely to vary from 1:1 to 1:2, and the proportion of walking to lying casualties might be taken roughly as 2:1, but half the "walking" cases would require sitting transport. With regard to gas casualties many uncertain factors such as weather conditions would come into play. Estimates of what was required to gas a big city had been made; the figures were such that the gassing of a capital might be regarded as practically impossible. He also gave some figures for possible casualties from incendiary bombs, and pointed out that the uncertainty of the locality to be attacked and the absence of warning made it imperative that medical units should be mobilized everywhere, and some units which would not be actually engaged must be mobile enough to reinforce the units in less favoured localities.

Medical Personnel

In considering the organization of the medical services Colonel Cowell emphasized the need for the appointment of surgical and medical consultants in time to assist in the training of volunteer surgeons and physicians, anaesthetists, and general duty practitioners. The Air Raid Precautions organization was the greatest task ever imposed on this country, and up to the present practically a voluntary one. In densely populated areas a personnel of 1:30 of the population must be found and trained, and for medical purposes only a personnel of 1:50. Of the medical personnel approximately 1 in 25 would be doctors. Dental surgeons would be useful in the organization, some to act as assistants to operating surgeons, others, after a little extra training, as anaesthetists. Medical students in their final years should be useful in exactly the same way. In the early days of war the services of Territorial troops might be called upon by the local authority, and steps should be taken now to

familiarize them with the use of protective clothing and the handling of stretchers. As many of the civilian casualties might be women and children, more easily handled than men, a certain number of women might be trained in this duty.

The collection of casualties would probably have to be done in darkness. After the rescue parties had brought the casualties out of damaged buildings the duties of the medical personnel would begin. A stretcher party would need a stretcher in an oilskin cover, a blanket, a surgical haversack, and spare respirators. Colonel Cowell suggested that the cases used by stretcher parties should have a zip fastener and should contain triangular bandages, shell dressings, splints, tourniquets, scissors, and safety pins, also labels for priority cases, an electric torch, and a notebook for messages. In towns where large numbers of casualties might occur it would be advisable to send all the walking and some of the lying cases to the first-aid post, and certain of the lying cases to the casualty clearing hospital direct, the dead being taken to a central mortuary. Motor ambulances should be stationed, two at each first-aid post, two at the casualty clearing station, four at headquarters in reserve, and three, for evacuation, at each of the base hospitals.

A certain number of slightly wounded and gassed cases would make their way home and call in their own doctor. With this fact in mind appeals had been made by the Home Office and the British Medical Association for doctors to study the treatment of gas casualties. Private practice, however, would be uneconomical in manpower, large numbers of doctors would be required to serve with the medical units, and it was hoped that the medical profession would collaborate with the local authorities and volunteer their services for this organized effort.

Selection of Buildings

For first-aid posts schools were convenient, and in view of gas cases the necessary alterations, including the provision of bathing rooms, should be taken in hand. It would not be possible to render existing buildings entirely proof against bombs, splinters, fire, and gas, but attempts should be made to do the best possible in the circumstances. Where practicable sufficient 6-ft. trenches should be dug in the immediate vicinity; these, if roofed and covered with sandbags, would afford some protection for patients who could walk. Where new hospital or school buildings were being erected the ceilings of the ground floor should be made strong enough to carry the structure above and include a 12-in. layer of concrete. The roof if tiled or slated could easily be pierced by thermite bombs. To prevent fires the attic floors should be covered by a layer of concrete slabs.

First-aid posts should be large enough to accommodate 300 patients—100 lying and 200 walking. The personnel of the first-aid post should be fifty, including twenty-five nursing orderlies. In Colonel Cowell's opinion the presence of a doctor at the first-aid post was essential. He would sustain the morale of the patients, diagnose doubtful cases, give priority to urgent ones, perform immediate operations required to save life, and exercise general supervision over the medical work.

As to the casualty clearing hospital, tents or huts were undoubtedly ideal, but it was difficult to render these gas-proof, and existing buildings would in most cases be chosen. Probably in future wars forward medical units would best protect themselves by camouflage. At the heights at which aeroplanes might now fly signs would be indistinguishable. The forthcoming International Red Cross Congress in London was to consider the question of securing recognition of neutralized hospital areas or *villes sanitaires*.

The casualty clearing hospital was the most important unit in the medical organization. One such hospital was required for 100,000 population. It should accommodate 200 cases, seventy-five only of these to be in beds, the remainder to be on stretchers. The hospitals should work in groups of two, three, or four. The officer in charge should be a doctor with an assistant or deputy for night duty. The personnel per shift should be ten medical officers, twenty nurses, three duty officers, thirty nursing orderlies, and others bringing the total voluntary personnel to eighty. In such a hospital 150 lying cases could be dealt with by six teams in eight hours. The treatment room should be large enough for eight stretcher and forty sitting cases. The best results would be obtained with teams of seven persons—surgeon, anaesthetist, sister, two orderlies, and two stretcher-bearers. The use of the two-table system was advocated, whereby two tables per team allowed the second case to be prepared for operation while the first operation was being completed. The mobile operating theatre, rushing to a casualty on the field and operating on the spot, appealed to the imagination, but it was bad for the patient and heartily to be condemned. The surgical maxim must remain: "Efficient first-aid and rapid evacuation."

Finally, the base hospital should be as far removed as possible from any definite target. In general arrangement it would approximate closely to an ordinary civil hospital. Accommodation for 1,000 casualties per 100,000 population might be required, but all localities would not be attacked at once, and one hospital would serve several. The work of the doctors at the first-aid posts and casualty clearing hospitals would only be of short duration; raids would not last continually day after day, and therefore they would be able to attend the base hospital. Here, as in every part of the organization, Colonel Cowell gave details of the personnel and accommodation required, and concluded with a time-table of performance of medical units in an imagined air raid on a concentrated population.

General Discussion

Air Commodore W. TYRELL said that if and when this country became a target for attack the steps taken to deal with it would have to be on national lines. The arrangements should be centrally co-ordinated on basic principles which could be applied to civilian emergencies equally with Navy, Army, or Air Force emergencies. This meant a uniformity in the terminology, procedure, and technique given in textbooks. If ordinary administrative instructions arising from a co-ordinated policy were centralized and then applied with sufficient elasticity to allow for modifications to civilian or defence force circumstances it would be of considerable help in dealing with panic—the first element associated with all bombing and gas attacks. The arrangements for collection, evacuation, treatment, and disposal of casualties were based on the assumption that casualties would only arise in the forward area, and that once they had been passed on to the clearing station they were relatively safe. But in the next war there would be no relative safety, and therefore it would be necessary to provide in every part of the country arrangements for collection; this was being done by the Home Office. It was in the case of the coincident destruction of a first-aid post and a clearing hospital that Colonel Cowell's suggestions for co-operation and co-ordination would come in, whereby another area would be requisitioned for help. This emphasized the need for central co-ordination in the first place, then decentralization through central channels. Yet another problem was how to overcome the apparent incompatibility of treating shock and collapse and decontaminating the patient. This applied particularly to mustard gas. The protection of hospitals against sprayed mustard gas was a problem that needed solution.

Dr. J. N. DOBBIE (London County Council) said that the term "casualty clearing hospital" was a misnomer, as each first-aid post and clearing hospital would be in the front rank. Hospitals would have to be established outside London; he suggested tents or huts in outlying districts. These might be established under the National Fitness Campaign as holiday camps and hostels for hikers and turned to the other use if and when the need arose. School buildings did not lend themselves to conversion into hospitals.

Dr. DONALD STEWART (Imperial Chemical Industries) said that he had been called upon to arrange medical services to deal with possible casualties among factory workers in the Midlands, and although the relevant Home Office publications were helpful, when it came to the accurate disposition of personnel he found little, apart from R.A.M.C. training, which was of help. The problem of rehabilitation and return to work of those persons who might be injured in an air raid was one that should be considered now as part of the whole scheme. It took several years of war after 1914 to evolve satisfactory schemes for rehabilitation and to make traumatic war surgery a definite entity. To deal with the problem these emergency measures had to be put into force, and these measures had a most significant bearing on the present-day problem of treatment and rehabilitation in general. Dr. Stewart suggested that thought should be given to this subject now and the practical application of the rules which were worked out during the years 1914–19, and the lessons then learned should be seriously reconsidered by the medical profession. One other point concerned the wearing of protective clothing. Recently he had seen a number of strong healthy men taking part in decontamination and anti-gas measures who were wearing this clothing, and found themselves quite unfit to carry on for longer than a few minutes. On this same matter of gas-proof clothing, Surgeon Commander S. G. RAINSFORD said that the Admiralty carried out an investigation some years ago and were surprised at the length of time the men could work.

Group Captain STRUAN MARSHALL drew attention to the "contra-gas tent"—an oilskin tent impervious from the outside and containing a small oxygen apparatus. Being soft-walled this tent could stand a great amount of blast without breaking. Dr. D. W. WALKER referred to the need for all medical officers to be trained in anti-gas treatment. It was not always easy to secure such training.

Colonel COWELL, in reply, said that his paper would appear in full in the *Journal of the R.A.M.C.* The question of the provision and co-ordination of a central staff was very important, and he hoped much would be done in that way shortly. It was felt that each local authority knew its own difficulties and could provide its own organization, but with regard to medical services there must be co-ordination with neighbouring authorities under central control. He agreed that allowance must be made for medical units themselves becoming casualties. With regard to admission to hospitals, if serious cases were sent straight to the casualty clearing hospitals these would be swamped; by using dressing stations first, cases could be fed to clearing hospitals as arrangements were made. Territorial London general hospitals were not in London; No. 2 was at Epsom and No. 5 at Orpington. He added that most local authorities had developed a conscience in this matter of air raid precautions. He had worked at it in Surrey for three and a half years, and had organized a personnel of 10,000 for the Red Cross. It was not difficult to get people to begin with, the difficulty was to keep up their interest.

JUVENILE NERVOUS AND MENTAL INSTABILITY

A meeting of the Liverpool Medical Institution was held on March 17, with the president, Dr. E. GILBERT BARK, in the chair. Dr. MURIEL BARTON HALL read a paper on juvenile nervous and mental instability, based upon records of 1,000 consecutive cases of young persons in the second decade of life.

Dr. Hall said these cases were examined between 1924 and 1937. Nearly half (496) were seen at the Liverpool psychiatric clinic, opened in May, 1924; 186 were seen at the Liverpool child guidance clinic, opened in November, 1929; 139 were seen in the department of psychological medicine of the Liverpool Royal Infirmary, opened in 1930; the remainder (179) were cases from her private practice. The series included every case of a boy or girl who was aged not less than 10 or more than 19 when first examined; 387 patients were under 15, 613 were over 15. Unselected in any way, the condition common to the cases was that by those who referred them in the course of ordinary practice all were considered suitable to be dealt with by a medical psychologist. There were 583 girls and 417 boys; with the exception of one girl all were unmarried. The cases were referred for investigation and treatment from three main sources:

1. General practitioners, consultants, and specialists: 432.

2. Social organizations concerned with the moral, mental, and physical welfare of young people: 376.

3. Public authorities, including school medical officers, public health officers, Home Office and police court officials: 192.

Each case was recorded in detail according to a prepared system, which included a record of the family and personal histories and of physical and mental examinations, and a statement regarding the diagnosis and prognosis arrived at and the recommendations made. The personal history included details of birth, early development, physical health, school progress, general conduct, environmental difficulties or changes, and occupations followed. Each patient underwent a general physical examination in which particular attention was paid to the central nervous, endocrine, and allied systems; a mental examination was conducted in every case. Where necessary, and this included the majority of cases, detailed psychometric examination of intellectual development and powers was undertaken. The chief purposes of the investigation, however, were those of arriving at a diagnosis, recording a prognosis, making recommendations concerning treatment, and instituting a system whereby each case could be followed up at subsequent intervals for the purpose of checking the two former and noting whether the recommendations had been put into practice and, if so, with what result. The cases referred comprised 515, in which disorders of conduct varying from laziness, violent temper, and pilfering to truancy, stealing, vagrancy, and forgery were the prominent symptoms; 448 in which nervous symptoms, including fears, obsessions, dreads, depressions, stammering, and enuresis, were noted; and thirty-seven in which the outstanding difficulty was an educational problem, such as backwardness in school work or failure in competitive examinations.

Aetiological Factors

The main aetiological factors explored were those of (i) heredity, (ii) intellect, and (iii) home environment. A psychopathic family history was found to be present in 56 per cent. of cases. A positive finding was indicated where there was a history of nervous breakdown, neurosis, insanity, suicide, mental deficiency, alcoholism, epilepsy, tuberculosis, syphilis, immorality, violent temper, crime, delinquency, or allied disorder in the patient's grandparents, parents, aunts, uncles, or siblings. In view of the fact that relatives tended to show reluctance in revealing adverse family traits it was possible that 56 per cent. represented a minimum figure; a hereditary taint was said to be present in relatives of 70 per cent. of mentally sound people. The difficulty of disentangling inherent and acquired factors in any particular case was such that it was not considered possible, in so varied a group of cases as this paper embraced and where figures for a control group were not available, to make positive statements regarding the part played by heredity, although in many of the cases it was undoubtedly a contributory factor.

In 562 of the cases the intelligence quotient was arrived at by the Stanford revision of the Binet-Simon scale, while in the remaining 438 it was assessed on school records. Taking the series of 1,000 cases together, 0.8 per cent. were considered to be of very superior intelligence, 11.1 per cent. of superior intelligence, and 41.9 per cent. of average intelligence; 29.4 per cent. were dullards and

16.8 per cent. were considered to be mentally defective. These figures differed from those expected from a sample of the ordinary population in two respects—namely, in the high proportion of dullards and of mental defectives which the series contained.

In the investigation and treatment of adult cases of nervous and mental instability the history of an unhappy childhood was of frequent occurrence. It was not surprising, therefore, if in investigating the nervous and mental instabilities of adolescence unhappy or unsatisfactory home circumstances were found to have contributed to a considerable extent. Nearly 45 per cent. of the cases were found to have suffered parental loss as a result of which the child had lacked dual parental control or had come under the care of a step-parent or other relative, or had been fostered, adopted, or placed in an institution. Cases of desertion, separation, or divorce were numerous. In a number of cases a parent was an inmate of a mental hospital, in others the father was employed over-seas. The series included seventy-seven cases of young people of illegitimate birth. Excluding this group, 14 per cent. of the cases were only children; in 22 per cent. the patient was the eldest child, in 20.8 per cent. the youngest, in the family. The greatest proportion, however, actually 35.5 per cent., were found to belong to none of these groups but to the middle section of families of three or more children. There were twenty cases in which the patient was one of twins, but no case in which both twins were brought for advice. Ninety-nine had been subject to court proceedings, seventy-three had been placed on probation, fifteen had been inmates of Home Office approved schools, three had been to Borstal, two had served terms of imprisonment, seven girls were the mothers of illegitimate children, and thirteen of the young people had attempted suicide. After full investigation it was found that each of the cases could be placed in one of six main groups according to the diagnosis arrived at.

Grouping of Cases

The largest group, comprising 33 per cent., was made up of those cases diagnosed as conduct disorders for which no mental, physical, intellectual, or purely nervous cause could be found. Cases of psychoneurosis amounted to 31 per cent., this term being used to include those conditions diagnosed or described as neurasthenia, psychasthenia, anxiety states, anxiety neurosis, anxiety hysteria, compulsion neurosis, conversion hysteria, and such other conditions as stammering, enuresis, and masturbation. A further 16 per cent. were cases of mental deficiency, and 12 per cent. were found to be suffering from some organic disorder to which the symptoms complained of were attributable. Chronic epidemic encephalitis and epilepsy were the commonest of these, there being twenty-six cases of each disorder in the series. Organic lesions of the central nervous system and cases of chorea accounted for a certain number, and the remainder were found to be suffering from disorders of other systems. Some 7 per cent. were considered to be psychotic—that is, mentally disordered; true psychotic conditions in children under 15 are of rare occurrence but become considerably more prevalent between 15 and 20, the two common varieties being dementia praecox and manic-depressive psychosis. Only 1 per cent. of the cases were normal individuals seeking vocational or educational advice. Some attempt was made throughout to assess the prognosis in each case. In only 29 per cent. was the prognosis considered to be favourable, while in 34 per cent. it was considered to be definitely unfavourable. In the remainder it was not found easy to make a decision either way.

Treatment tended to fall into three main categories: (i) active psychological treatment, which was considered in the present series of cases to be applicable in 33.3 per cent.; (ii) social adjustment, or a means whereby some adjustment was brought about in the home, school, training, or occupational environment which relieved the stress upon the patient and thus assisted him in overcoming his nervous or behaviour symptoms—21.6 per cent. were considered to require this form of treatment; and (iii) placement, which may take the form of voluntary placement in a home or training school, or may require some legal measure under the various Acts relating to mental disorder, mental deficiency, or unruly behaviour, and was recommended in 26.8 per cent. of the cases. Fairly common causes of nervous and mental breakdown in young people arose out of attempts to adapt to what were, for them, quite unsuitable occupations. In 6.2 per cent. of the series a change in occupation was the sole recommendation made; 6.4 per cent. were considered to be in need of treatment along general medical lines; and in the remaining 5.5 per cent. it was not felt that a recommendation could be made.

Late Results

An attempt to carry out a follow-up of the cases diagnosed and treated, as well as of those for which other recommendations were made, was considered to be an important feature in the investigation. The main facts inquired for in the follow-up were: (i) mental, nervous, and physical state of the patient as compared with his condition at the time of the initial examination; (ii) situation as regarded employment; and (iii) place of residence. Although an after-history of one year or more had already been obtained in 52 per cent. of the cases, it had so far been possible to obtain a complete five-year follow-up in only 12 per cent. Of the 120 cases in which the follow-up had been completed 40 per cent. had made a complete recovery, 24 per cent. a partial recovery, 17 per cent. were unchanged, and 19 per cent. had deteriorated or died.

The three main sources from which the cases were derived were medical, social, and official. An analysis of the findings in relation to each of these sources revealed considerable differences between the characteristics of the group referred by medical practitioners and those of the other two groups, in which the findings showed such close similarity as to warrant their being considered together. The great majority of the first group were referred on account of nervous symptoms, whereas in the other two groups the majority were referred on account of some conduct disorder. In the first group a sound family history was more commonly present than an adverse one, while in the other groups the reverse was the case. The dullard did not take a prominent place in the first group; in the other groups, however, dullards and mental defectives were in the majority. In the first group the "normal home" was three times as prevalent as the "broken home," whereas in the other groups the "broken home" was more prevalent. The cases from medical practitioners were in the main diagnosed as suffering from a psychoneurosis, and physical and mental disorders took a prominent place, cases of conduct disorder being relatively infrequent. In the other groups a large majority were cases of conduct disorder. In the first group a good or uncertain prognosis was made more frequently than an unfavourable one, while in the other two groups the reverse was the case. In the first group psychological treatment was the commonest recommendation made, while in the other groups advice as to voluntary placement was most often given, some legal measure being the next most common. Dr. Hall concluded by saying that it seemed that two distinct categories of patients were being referred to psychiatrists for investigation at the present time—first, persons handicapped by intellectual, mental, or moral infirmities, or what had been called the "social problem group"; and, secondly, a group of much more promising material.

Other Papers

At the same meeting Dr. A. G. C. FFOLLIOTT read a note on a case of thrombosis of the inferior vena cava. The patient was a married woman aged 59. She had had varicose veins

in the right leg since the age of 18. Thrombosis occurred in the middle third of the leg and extended proximally at the rate of two inches a day. On the seventh day a non-fatal pulmonary embolus occurred. Eventually suppression of urine and coma occurred, due to obstruction of the renal veins. This persisted for three days, after which the kidneys began to function again, and the patient made a slow but complete recovery.

Mr. JOHN ROBERTS read a paper on 120 consecutive cases of foreign body removed from the oesophagus and upper respiratory tract, and in the discussion which followed Mr. H. V. FORSTER, Dr. REGINALD GEMMELL, and Dr. COTTON CORNWALL took part.

GONORRHOEA IN WOMEN AND CHILDREN

At a meeting of the London Association of the Medical Women's Federation, held on March 22, with Miss E. C. LEWIS, the president, in the chair, Mrs. MARGARET RORKE read a paper on this subject.

Mrs. Rorke, speaking first of signs and symptoms of gonorrhoea in adults, said that diagnosis was nowadays made by films and cultures, and by blood complement-fixation tests in cases with more than ten days' history of discharge. In all cases with bowel symptoms, and at some time in the treatment of cases without such symptoms, careful rectal examination and tests were required; a surprisingly large number of patients were carriers of gonococcus in the lower rectum. She spoke of the local areas most often affected—the urethra in 80 per cent. of all adult women, the vulva in some; a Bartholin abscess should be treated by free incision under general anaesthesia, for otherwise a residual sinus might remain as a chronic infective focus. Cervicitis was primary and vaginitis a secondary infection: local extension might be to the bladder, causing acute cystitis, to the endometrium, and to the tubes. Extension to the peritoneum was not rare, but caused remarkably few symptoms and little pyrexia after a day or two of acute pain. Warts of the vulva sometimes disappeared spontaneously if kept dry and dusted with compound "dermatol" powder or the like. They were best treated by excision under a general anaesthetic after the urethral infection had cleared up, and dressed with flavine in sterile paraffin. Trichomonas infection was often complicated by gonorrhoea, which was often not demonstrable until the trichomonas had been subdued. The possibility of gonorrhoea as an underlying focus in cases of arthritis of the wrists, hands, knees, ankles, or feet must not be forgotten.

Gonorrhoea in children was mostly due to indirect infection from towels, sheets, and sanitary appliances previously used by an infected and careless adult. Direct vulvo-vaginitis due to criminal assault was relatively rare. The other direct infection was ophthalmia neonatorum, due in 90 per cent. of all cases in England to the gonococcus in the mother's cervix or vagina; 100 to 120 cases were still being notified every week in England and Wales. The most modern treatment for vulvo-vaginitis was administration of an oestrin preparation (often menformon) in addition to local treatment, and prontosil album cautiously given in doses amounting to 1 or 2 grammes daily was useful in children over 18 months. Dr. D. K. Brown had reported good results with prontosil in a short series of cases treated at the Children's Medical Home, Waddon. The great advantage of the treatment was the reduction of local applications to a minimum. Since a few cases of intolerance had occurred, the drug was now given for ten days only, with equally good clinical results so far; maximum total dosage 20 grammes.

Turning to treatment in adults, Mrs. Rorke said that the essentials of treatment were rest, drainage of uterus, local treatment by sitz baths, douches, and oral medication. The public laid far too much stress on douches, long-continued self-administration of which often led to local damage without touching the underlying pathological condition. Rest was of paramount importance, and even where treatment in bed was impracticable the patient could be urged to have long nights and Sundays in bed, and, where possible, a generous diet. Local douches should be given by a trained nurse and not continued too long. After the massive purulent discharge had gone the cervix should be cleaned and dried and treated with glycerin alone, or in combination with other drugs such as protargol or boracic on a probe. During the last few months Mrs. Rorke had used prontosil album in doses of 3.5 to 4 grammes daily for a week, and half this dose for a second week in combination with an acid or an alkaline mixture, depending on the vaginal *p*H. In the main the results were highly encouraging, and in some cases even dramatic. It was essential to watch the patient and to spread the dosage well over the day, the last tablets being taken at bed-time.

Mrs. Rorke spoke of the treatment of gonorrhoea by heat, electrically or chemically produced. She had found diathermy admirable, particularly in the urethra and rectum. More recently she had procured great relief from the pain of salpingitis by the use of the Elliot machine, which consisted of a latex bag attached by rubber tubes to a small machine containing electrically heated water. The bag was placed in the vagina, and the temperature of the water was raised slowly from 116° to 128° F.; the patients derived much comfort from the treatment. The use of artificial pyrotherapy by the Kettering hypertherm had been found beneficial in America for patients with resistant gonorrhoea. The temperature in the machine was slowly raised to 105° to 106° F., and was kept at this level for five hours. Mrs. Rorke showed films demonstrating the effects of this treatment in advanced cases of gonorrhoeal arthritis. Finally she discussed tests of cure, quoting figures from the pathological laboratory at the Royal Free Hospital to show that cultures as well as films were essential. She required as minimal criteria negative films and cultures taken at the end of three menstrual periods, the last being after at least a month without treatment and after provocative painting or alcohol. The blood complement-fixation test must be negative and the patient's clinical condition must be free of all signs and symptoms of infection before she was allowed to regard herself as cured.

A meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland was held on April 1. Dr. G. C. DOCKERAY, who presided, described a case of cirrhosis of the liver with macrocytic anaemia; Dr. W. R. O'FARRELL showed a specimen of infarction of the left ventricle; Professor J. MCGRATH and Dr. T. C. J. O'CONNELL discussed a fatal case of carcinoma of the kidney with secondary deposits in bone; and Professor McGrath also read a paper on some methods of testing the efficiency of hospital sterilization plants. In the discussions which followed the president of the Academy, Dr. A. R. PARSONS, and Drs. E. HARVEY, J. C. FLOOD, M. P. O'CONNOR, S. J. BOLAND, W. A. GILLESPIE, and J. C. MCSWEENEY took part.

At a meeting of the North of England Gynaecological and Obstetrical Society at Liverpool on February 25 Mr. FRANK STABLER (Leeds) described two cases of advanced extra-uterine pregnancy; Mr. ST. GEORGE WILSON recorded a case of sarcoma of the femur complicating pregnancy; Mr. C. J. K. HAMILTON (Liverpool) discussed a case of Siamese twins; Dr. A. A. GEMMELL described a congenital sacculated pouch of the posterior wall of the bladder; and Dr. C. E. B. RICKARDS read a paper on uterine rupture following Caesarean section, which will appear in a forthcoming issue of the *British Medical Journal*.

Local News

ENGLAND AND WALES

A National Physical Training College

Plans for the establishment of a national physical training college for teachers have reached an advanced stage. This was indicated by Sir Kaye Le Fleming, Chairman of Council of the B.M.A., when he gave a talk at Olympia on April 13 in the series arranged by the Association on the medical aspect of fitness. Sir Kaye, whose subject was "Physical Education in Schools," said: "I am glad to be in a position to say, as a member of the National Council of Physical Fitness, that the plan for this project has passed the necessary tedious process of preliminary investigation with regard to a suitable site, a process necessarily shrouded in a good deal of secrecy, and before long I am confident it will be possible to give the public more information on the subject. The college when complete will include all the necessary facilities for the purposes of training and teaching the subject, such as a residential college should provide, in addition to special requirements such as gymnasia, swimming baths, running tracks, a stadium and playing fields in surroundings which will be permanently secure from undesirable encroachments." Research will also be undertaken, Sir Kaye stated, on such matters as the relation of physical fitness to nutrition, fatigue, heart tolerance, and muscular exertion. "We have to-day no standards of measurement of physical fitness. Here is a vast new field for medical and scientific research, into which those who have ventured have done so as solitary explorers without any attempt at systematic and co-ordinated effort to cover the ground."

Health and Cleanliness Council

The Health and Cleanliness Council, now a thriving twelve-year-old, gathered its friends together on April 13 at a luncheon in London, with Dr. G. F. Buchan, the president, in the chair. The large company attending included many medical officers of health, also representatives of local education departments and of voluntary organizations. The principal guests were Lord Horder and Sir Arthur MacNalty. In proposing the health of the council Lord Horder said that it stood for preventive medicine in relation to the individual and to the home. Some of its slogans—notably, "Where there's dirt there's danger"—made a great appeal to him. He believed the inculcation of cleanliness struck at the very root of disease. Children took kindly to being clean if shown how and given facilities, and, to vary an old adage regarding the volunteers, one child who washed itself was worth ten washed children. Such work as the council undertook, Lord Horder went on, required courage and persistence, even more persistence than courage, for while there was often little difficulty about the initial effort, the continued effort called for more resolution. In the home cleanliness was "the preventive medicine of housing." One of the council's aims was to see that no tenant owing to lack of instruction made a contribution to new slums. In Great Britain they boasted of the best public health services in the world, and not without reason; but the enemies of public health were not only poverty and economic maladjustment but ignorance and laziness, and therefore such successful propaganda as the council had instituted was very much needed.

Dr. G. F. Buchan said that 285 bodies, some of them municipal and some voluntary, were now represented in the council. In preaching cleanliness as the first law of health the council had not tried to supplant any existing organization, and it had worked largely through ready-made audiences of women's institutes and the like. Last year between 700 and 800 lectures were given, and a very large number of posters had been displayed and pamphlets distributed. While attention was mainly directed to personal and domestic cleanliness, civic cleanliness also came within the council's ambit. Dr. Buchan reminded his audience how comparatively recent a thing was cleanliness as the modern world understood it. Not until the days of Elizabeth was soap discovered, and for many a long year it was a crude and expensive product. He might have added that the word "soap" does not appear in Shakespeare, though Coriolanus bids the citizens "wash their faces and keep their teeth clean." Only during the nineteenth century, said Dr. Buchan, did the means of cleanliness become available for all, and now there was more money spent in this country on keeping clean—including not only personal lavation but laundry, house cleansing, and city scavenging—than on clothes or on education. Cleanliness in fact was the index of civilization, the foundation of health work, and of great aesthetic value.

Care of the Blind

Sir Kingsley Wood, the Minister of Health, after opening the new municipal workshops for the blind at Stratford, E., gave an address in the Town Hall, West Ham. He said there were some 78,000 registered blind persons in England, Wales, and Scotland, and of these nearly 57,000 were aged 50 or over. He did not think the number of blind people in this country was increasing, and, owing to increased knowledge of the causes of blindness which operated at birth and in the earlier years of life, the age at which persons were first registered as blind was becoming progressively later. There had also been a substantial fall in the number of blind children. Despite the fortitude and cheerfulness with which blindness was borne it was a terrible handicap—more particularly to the great majority of blind persons over 40 years of age—because it was not then normally practicable to train them in a new form of employment. The lowering of the pension age to 40 would at any rate secure to many of the blind population a regular source of income. He believed Parliament had also expressed the general opinion of the country in enacting that domiciliary assistance to blind people should no longer be given under the Poor Law but under the Blind Persons Act. Blind people should have as many contacts as possible with life and the world. It said much for their adaptability that many of them were filling to-day positions not only of responsibility but such as required considerable technical and mechanical skill and aptitude. The blind had contributed many able members to professions and many skilful craftsmen to trade and industry. Prevention of infantile blindness and preservation of the sight of school children were having an increasing effect in restricting the number of persons becoming blind in early life. The Minister, in conclusion, stressed the importance of home visiting and home teaching. Efficient visiting helped to discover cases of blindness, and he particularly desired to see the blind trained in the early years of their affliction.

Milk Pasteurization Plant

In view of the increasing number of pasteurizing plants the Royal Sanitary Institute (90, Buckingham Palace Road, S.W.1) conducted during the winter of 1937–8 three courses of lectures and demonstrations for medical officers of health, sanitary inspectors, and others interested in the subject of pasteurization. During the courses arrangements were made for those attending to see different kinds of plant in operation, which proved very helpful to illustrate the difficulties to be overcome in practice. It seemed

evident that the demand for such courses was not fully met, so it has been decided to hold a further course on Thursday and Friday, May 26 and 27.

SCOTLAND

Research in Surgery at Edinburgh

A unit for clinical research in surgery has been established at Edinburgh by the Medical Research Council, acting jointly with the Royal Infirmary, the University, and the Royal Hospital for Sick Children. The unit will be located in the Infirmary, with facilities also in the University Department of Surgery and at the hospital. The director is Mr. W. C. Wilson, F.R.C.S.Ed., who has for this purpose been appointed to the whole-time staff of the Council. The arrangement has at present been made for a period of five years from April 1, 1938. The establishment of "units" or departments of this kind in selected hospitals forms part of a policy adopted by the Medical Research Council for the promotion of research work in clinical science, as opposed to the laboratory branches of medicine. Two units for research in clinical medicine and one for research in neurology have already been established in London. The new surgical unit is the first one under the scheme to be set up outside the Metropolis.

Mental Defectives as Good Citizens

In an address to the Edinburgh Committee for Mental Welfare on April 4 Dr. W. M. C. Harrowes, physician to New Saughtonhall Mental Hospital, said there was no more useful citizen than the mentally defective person if he received good habit training. Society would always need hewers of wood and drawers of water, and if the mental defective was properly habit-trained he would be content with these menial occupations and, indeed, was far better at them than anyone else. Parental authority was seldom questioned by society except in flagrant instances, but it was always being questioned by the child, sometimes aggressively, sometimes implicitly, but always with reason. A certain quality, which William James had called sagacity and which was customarily called judgment or common sense, existed as an innate endowment, and the child's capacity for judgment was similar to that of the adult. The child's life was simple with few distractions, and he was the closest possible scrutineer of discrepancies in conduct. The adult before criticizing the child should examine his own attitude to authority. Much was heard to-day of the controversy about the relative influence of environment and heredity in causing maladjustment, but the facts of each case should be taken for what they were worth. The important principles in any investigation of a case of maladjustment in child or adult were freedom from preconception and readiness to utilize proved facts, dealing with the individual as a unit in changing environment, and refusal to use a complicated technical terminology. The chairman, Mr. Charles Milne, K.C., said that the need for a remand home for juvenile delinquency in Edinburgh was urgent, and the plans for a new home were already in preparation. Many cases of juvenile delinquency were really cases of mental deficiency.

"Fitter Britain" at Glasgow

The Empire Exhibition at Glasgow, which is to be opened by the King on May 3, will include in the United Kingdom Government Pavilion—a building equal in area to St. Paul's Cathedral—a "Fitter Britain" exhibit, arranged by the Ministry of Health in collaboration with the Board of Education, the Scottish Department of Health, and the National Fitness Council. The exhibit, the most ambitious scheme of the kind the Ministry has ever attempted, is in portable form, and when the exhibition at Glasgow is over it will be shown in other parts of the country, and may be seen in London early next year. The most startling feature is a piece of mechanical engineering in the form of a working model, four times life-size, of the upper part of the human body, showing the processes of respiration and digestion and the circulation of the blood. Thanks to the modern technique of sound-recording, the "mechanical man" will lecture on his own physiology every quarter of an hour. More artistic if less fascinating will be a gigantic sculpture representing the ideal man, woman, and child after whom the National Fitness Council strives, and below this will be a panel of facts and statistics illustrating the improvements in national health during the last century, and especially the last forty years. A model of a central health clinic is one of the leading features of the exhibit and reproduces on a small scale the apparatus for orthopaedic and *x*-ray treatment, the arrangements for maternity and child welfare, and so forth, all in minute detail down to the liquid soap containers and the accessories of the dental chair. A model of a general hospital has been lent by the King Edward's Hospital Fund, and here again everything is in scale, down to the bedspreads, which are lace handkerchiefs given by ladies of the Royal Family. In the bays on either side of the hall there have been arranged illuminated pictorial sets depicting the modern care of infants (contrasting the methods of Betty Higden in *Our Mutual Friend* with infant hygiene as practised to-day), the work of the school medical service, the provision of games and recreation in a community centre, the work on nutrition and on housing, and the guard against infectious disease. The story of some of the enemies of health—tuberculosis, cancer, venereal diseases, rheumatism—will be graphically told, and the agency of the bed-bug, the flea, the house-fly, and the louse in spreading disease will be vividly brought home.

The Ministry of Health exhibit will not be the only one that deals with health. The work of the R.A.M.C. is to be shown in the Army Pavilion, and the Home Office has an exhibit illustrating methods of accident avoidance in factories. Here power presses, hydro-extractors, circular saws, printing machines, and machines used in the food trades will be shown with which it is almost impossible to sustain an injury. One machine is so interlocked that the operative cannot put his hand into the danger zone; in another, if he does place his hand near the danger zone, the machine stops instantly; in yet another, if the hand is brought near the rolls of the machine they will reverse and push the hand out of danger instead of drawing it in. Other Home Office exhibits deal with ventilation, lighting, protective clothing, and first-aid equipment. Scotland itself is represented by two pavilions, one showing its past and the other its present, and in the latter there is being staged the statutory services which are provided for the individual from before birth down to old age. The contribution of Scotland to medicine is the subject of an exhibit in which the Scottish Committee of the British Medical Association has collaborated with the Department of Health; it is largely historical in character, and deals with the part played by individuals, medical schools, and hospitals.

At a Government reception to the Press the other day those who attended were given an embarrassing amount of typewritten material testifying to the resourcefulness and ingenuity of those responsible for the departmental exhibits. But in those which had to do with health and fitness no reference was made to private practice, and one might have imagined the family doctor to be non-existent, save that the family doctor, "the first bulwark of health," will be represented among other mural paintings in the vestibule. It is natural that in an exhibit arranged by the Government statutory health services should be emphasized, but the medical service under the National Health Insurance Acts is a statutory service, and no mention whatever is made of it in the 16-page pamphlet, *The Fitter Britain Exhibit*, issued "with the compliments of the Ministry of Health."

Correspondence

After-effects of Modern Treatment of Carcinoma

SIR,—The correspondence following my original communication (*Journal*, February 26, p. 450) has been interesting and instructive. From it I realize that there is no generally accepted method of applying radium; that selection of the best method of treatment for each individual case depends purely on the surgeon's predilection; that the miseries of radium necrosis, neuritis, and myalgia are still of frequent occurrence: and that no correspondent of mine has ever been warned of the possibility of this before treatment began. Walkhoff and Giesel announced in 1900 that radium had certain physiological effects, and Professor Regaud wrote in 1934: "Madame Curie can be counted among the eventual victims of the radioactive bodies." Surely these facts call for further research, the results of which should be readily available to all members of the profession.—I am, etc.,

Northam, N. Devon, April 11. PERCY FURNIVALL.

Classification of Adventitious Sounds

SIR,—A most important point is raised by the correspondence on the classification of adventitious sounds. While it is interesting to follow the development of the nomenclature from the time of Laennec onwards, it is unfortunately of very little use to the student of to-day, who is often confused by the different terms which are used by his teachers to describe the same sign. The ideal classification should have the merit of brevity and conciseness, and should avoid so far as possible the use of indeterminate adjectives; it is also desirable that the recognition of an added sound should help to indicate the site and probable nature of the condition which causes it. The following classification seems to me to meet the requirements of the student:

1. *Sounds produced by Narrowing of the Bronchial Tubes.*—These are sometimes termed "continuous sounds"—rhonchus and sibilus. The rhonchus is low in pitch and is produced in the larger bronchial tubes; the sibilus, high-pitched, is produced in the bronchioles. Each of these sounds indicates narrowing of the tube by swelling or by spasm, and they are therefore present in bronchitis and in asthma.

2. *Rales.*—These are bubbling noises which are produced by the passage of air through liquid. They may be heard when the liquid is in a bronchial tube or in a cavity in the lung tissue. They are therefore a feature of pulmonary congestion, bronchiectasis, certain types of lung abscess, and of tuberculosis with cavitation. They may also be heard in other conditions which produce the necessary combination of air passing through liquid.

3. *Crepitations.*—These are the finest of all added sounds, and are produced by abrupt separation of the walls of the alveoli. Crepitations therefore indicate a lesion of the lung parenchyma, and they are most commonly heard in early and late pneumonia and in early pulmonary tuberculosis.

The adoption of a classification of this type would greatly simplify the problem which confronts the student, and it has the additional advantage that a fairly clear mental picture is conveyed of the type of process which is causing the adventitious sound.—I am, etc.,

London, W.1, April 14. JAMES MAXWELL.

Modern Views on Pellagra

SIR,—Drs. W. J. Dann and Y. Subbarow, in a letter in the *Journal* of April 9 (p. 809), make the statement that, "applying these criteria, canine black tongue and the recently described disease in pigs (Chick, H., *et al.*, 1938, *Biochem. J.*, **32**, 10) are the only true analogues of human pellagra which we know to-day." From the description given of the condition in pigs it seems almost certain that we are dealing here with one of the major sequelae of iron deficiency. In connexion with this condition I have shown elsewhere that in a certain proportion of the affected pigs there occurred, as a late manifestation, an anaemia of the macrocytic type which was associated with great destruction of the parenchyma of the liver. This anaemia was completely refractory to treatment with iron but readily yielded to feeding with raw liver. I interpreted these findings as indicating: (1) that in the normal animal the liver elaborated further a precursor substance formed in the stomach by the interaction of intrinsic and extrinsic factors; and (2) that in such cases as those at present under discussion fully formed liver agent was deficient, chiefly because of the great diminution of the liver tissue, which, however, acted in combination with a stomach deranged by the anaemia (with consequent effect on the intrinsic factor) and food of a nature affording a poor supply of extrinsic factor. Absorption did not appear to be affected, as was evidenced by the reaction to liver extract administered orally.

In 1931, in collaboration with Dr. R. D. Sinclair (*Edin. med. J.*, 1931, **38**, 405), I showed that the anaemia (and the condition as a whole) could be influenced in the most dramatic fashion by the oral administration of liver extract. Recently Elvehjem has demonstrated that liver extract has as one of its important ingredients nicotinamide. Under these circumstances two points of considerable moment arise for consideration. In the first place, it seems possible that yeast may contain, preformed as a nicotinic acid-containing body, liver-agent-precursor—that is to say, the equivalent of the interaction of intrinsic and extrinsic factors; and, secondly, the question arises as to whether we are really dealing here with a condition comparable to pellagra as it occurs in human beings. If this happens to be the case, considerable light will have been thrown on the details of the genesis of the human disease.—I am, etc.,

Aberdeen, April 11. J. P. MCGOWAN.

Pasteurization of Milk

SIR,—I must admit to Dr. Halliday Sutherland (*Journal*, April 9, p. 812) that I gave but slight attention to his suggestion that the substitution of pasteurized for raw milk might prejudice human fertility. As he offered no evidence in support of this proposition, and as in highly varied dietetic and climatic conditions man has not failed to multiply and to replenish the earth, a speculative possibility of the effect of a slight vitamin change in a relatively small factor of an ordinary mixed diet seemed to me to offer no chance of fruitful discussion. Equally ineffective would be the consideration of the possible effect of confining man to a diet consisting solely of pasteurized milk, for no one proposes this heroic experiment. Even if it be true that the use of pasteurized milk and the falling birth rate have an apparent time relation, Dr. Sutherland is hardly of those who argue that the building of Tenterden steeple was responsible for the coincident appearance of the Goodwin Sands.

Since writing my letter (April 2, p. 753) I have learned that an experiment much on the lines desired by Dr. Sutherland has already been made and recorded. Conducted under strictly scientific conditions of observation and control, the experiment in essence was a study of the effects of raw and pasteurized milk, respectively, in two groups of mice, each comprising some 1,100 individuals. Among the conclusions supported by full statistical details may be read: "Little or no difference was noticeable between the raw and pasteurized groups in relation to rapidity of conception, average number of litters produced, or average number of litters reared." (G. S. Wilson and Irene Maier, *Journal of Dairy Research*, June, 1937.) Professor Wilson's study is valuable in several directions, but I must limit my quotation to the point on which Dr. Sutherland particularly desires information.—I am, etc.,

London, W.1, April 12. C. O. HAWTHORNE.

SIR,—Although I am not a member of the medical profession I have been a producer of tuberculin-tested milk for a good many years, and have always taken the closest interest in the Raw *v.* Pasteurized Milk controversy. It seems to me that in many cases misleading conclusions have been drawn from experiments which have been carried out. In Professor G. S. Wilson's experiment, for instance, which has been much quoted, although it was stated that there was no difference in outward appearance between calves fed on raw and those on pasteurized milk, I would call attention to the fact that there was a considerable difference in the prices realized, even excluding those calves which were admitted to have suffered from scour in the pasteurized group. This difference cannot be easily explained away.

In the later Hannah experiment, which has also received much publicity, the results of the inspection by four separate judges—who classified the calves into three different classes: (A) those in exceptionally good condition, (B) those in a satisfactory condition, and (C) those in a definitely unthrifty condition—show the following: Calf No. 9 was classified by one judge in Class A, by two judges in Class B, and by one judge in Class C; Calf No. 11 by two judges in Class A, one in Class B, and one in Class C; Calf No. 13 by one judge in Class A, one in Class B, two in Class C; Calf No. 17 by one judge in Class A, two in Class B, one in Class C; Calf No. 25 by one judge in Class A, by two in Class B, and one in Class C. These are not the only examples, but others could be chosen, showing that there was great diversity of opinion; Calf No. 36, for instance, was classed by three judges in Class A and by one judge in Class C. How is it possible to reconcile judges' conclusions such as these? Surely, although there may be some doubt about classification, there should be no doubt whatsoever as between "exceptionally good" condition and "definitely unthrifty," and yet these are the results on which we are asked to compel the public to buy pasteurized milk.

I should like to see experiments carried out to decide the relative growth in raw and pasteurized milk of pathogenic bacteria which have passed successfully through the process. Surely Dr. James Kirkland will not maintain that all thermoduric strains of *B. coli* are non-pathogenic. If so, on what evidence does he base his conclusions?

Would it not be better if the British Medical Association were to pay some attention to the grossly excessive margins demanded by the large dairy companies in London for tuberculin-tested milk, so that this could find its way into more homes, and more producers be induced to set their house in order? Perhaps they are unaware that ordinary milk pasteurized costs 3½d. per pint, tuberculin-tested milk pasteurized 4½d., or 8d. per gallon more, whereas tuberculin-tested milk *unpasteurized* is priced at 8d. per pint—a wholly ridiculous price, and unjustifiable under any conditions, except for the desire to prohibit the public from purchasing the best that a farmer can produce. I will not maintain for one moment that all milk produced on the ordinary farm is satisfactory—far from it—but surely the aim should be to find a market for the best, and to encourage its production by giving the producer a fair deal, while allowing those who are convinced that pasteurization does have some effect in the long run to purchase the class of milk which they are willing and anxious to use.—I am, etc.,

Rowallan, Kilmarnock, April 12. ROWALLAN.

SIR,—Dr. Lionel J. Picton refers to my letter in the *Journal* of March 26 (p. 704) as "a refreshing breeze in the stale atmosphere of the milk spoilers." May I return the compliment by saying that his letter (April 9, p. 812) reminded me of the meeting of Stanley and Livingstone in Darkest Africa. I am also grateful for his reference to the work of E. C. V. Mattick and J. Golding, which I had missed. Nevertheless, the experiment he quotes refers to sterilized milk which had been held for an hour at a temperature of 210° to 212° F. Our opponents may point out that pasteurized milk is held at a temperature between 145° and 150° F. for half an hour. A third experiment of Mattick and Golding (*Lancet*, 1931, **1**, 666) shows the effect of pasteurized as distinct from sterilized milk on the fertility of rats.

Eighteen buck rats were divided into three groups of six. In addition to a diet common to all, group A had whole raw milk; Group B had pasteurized milk; and Group C had sterilized milk. Eighteen does were likewise divided into three groups and fed like the bucks. On reaching maturity the rats in the corresponding groups were cross-mated on the same day. None of the does in Group C became pregnant. All does fed either on raw milk or on pasteurized milk did become pregnant. The raw milk group produced forty-seven offspring, of which forty-one were born alive; the pasteurized milk group produced forty-two, of which only twenty-two were born alive. If fertility be the capacity to produce healthy offspring, then, on this experiment, pasteurization reduced fertility by over 52 per cent. It may well be that none of the known vitamins is so exclusively specific in its action as is generally supposed; that in whole raw milk there is a vitamin balance; and that the upsetting of this balance by pasteurization has an adverse effect on fertility. More experiments are urgently needed, and with depopulation in the offing the rats which Dr. Picton pities may help to save a sinking ship.—I am, etc.,

London, W.8, April 11. HALLIDAY SUTHERLAND.

Posture and Painful Feet

SIR,—The reading of the report of the discussion on "Painful Feet" in the *Journal* of April 2 (p. 748) leaves one with feelings of despair for those who are suffering and all those who will be allowed to suffer from this painful condition if their only hope of relief is in the ministrations of the chiropodist with his pads or from operations by the orthopaedic surgeon. Neither does it produce a feeling of hope of ever understanding the cause, or its prevention and cure, to talk about "evolutionary regression" or to "blame the shoemaker," who simply gives us the kind of shoes we desire to have.

In every case of "painful feet" it will be found that the patient's posture is bad as the result of the bad use

and functioning of the whole body, including the feet—the pain in the feet being the most obvious result to the patient but by no means the only one. In the discussion no speaker mentioned this constantly acting cause, and naturally no reference was made to how it was to be removed. That the condition can be relieved by many different procedures is well known ; but so long as patients have to wear supports and other adventitious aids they cannot be said to be cured while they are still left with their bad use and bad posture, against which the whole body as well as their poor feet are struggling, whereas when the only treatment given is a general (not specific) re-education in the use of the self, for the correction of the postural defects, not only does the patient recover from his painful feet but he experiences a great physical as well as mental sense of well-being. The cases may differ widely in the character and degree of the bad use and malfunctioning and the resulting postural defects, but the method of re-education is the same because the primary cause is the same.

To the profession this theory of bad use, with bad functioning leading to postural defects, is new, so that the idea of correcting postural defects with their accompanying disabilities, whatever they are, by re-educating the patient in a better use of himself is also new, not to say revolutionary. But the results in the sphere of prevention are only equalled by its practical results in the sphere of alleviation when defects and disabilities have arisen.

To explain the theory and give the anatomical and physiological data on which it rests would be beyond the scope of this letter. Let it suffice to say that the keynote of all use and functioning lies in the relative position of the head to the spine at the atlanto-occipital joint, and our capacity to use and direct it in a direction which can best be described as " forward and upward," instead of " backward and downward " as it is found to be in every case of bad use and functioning with accompanying postural defects, such as will be found to exist in every case of " painful feet."—I am, etc.,

Bexhill, April 9. A. MURDOCH.

Facial Wounds

SIR,—With regard to the method of adapting the thin edge of the apex of the upper flap of an oblique cut, Mr. Julian Taylor, in his article on facial wounds (*Journal*, April 9, p. 792), advocates a practice which has stood the test of time. When the oblique cut has penetrated the deep tissues difficulty arises, and the under flap, which has a tendency to curl in, needs anchoring ; this I effect by means of a removable continuous silkworm-gut suture. Points in wound healing which most writers do not sufficiently deal with are the questions of time and support. I doubt whether facial cuts are any better treated to-day than they were in the past. I am quite certain that the simpler the measures employed the better for all concerned. All endeavours to elaborate a quite unnecessary plastic technique should be discouraged.

The majority of surgeons recommend that their surface stitches should be removed in three days. They say that three days is sufficient for union, and after any longer period stitch marks remain. Here I disagree. Because the epidermis is in contact, it does not follow that the substrata are in contact. That scar tissue forms eventually —as a thin white line, which may be raised, level, or sunken—can only be accounted for by the fact that the deeper tissues, unsupported, have retracted and the space has been filled with granulation, and later scar, tissue. General practitioners who employ plaster in either narrow strips or broad bands to adjust facial cuts often produce results surpassing the most expensive efforts of the plastic specialists. Strapping is the alternative to suturing, and though it answers very well there is a modification of the method which may appeal to many.

For facial cuts I suggest the use of that cheap and transparent cellulose product which encloses the breakfast kipper and can be sterilized by boiling. It may be obtained in large sheets, and with a suitable strip and adhesive plaster at each end the wound can be drawn together, the accuracy of the contact being visible all the time. If preferred, a trace of vaseline can be applied to the surface apposed to the wound.

In discussing the suture of muscle and deeper tissues Mr. Taylor refers to " unnecessary buried sutures in a field of doubtful cleanliness." I do not bury absorbable sutures in these cases, because the degree of absorbability is often an unknown quantity, and a frequent cause of trouble. My own procedure is to employ a long, continuous, vaselined, fine silkworm-gut suture, leaving the ends protruding so that the ligature may be withdrawn in ten days' time. I prefer the finest household needle through which 00 silkworm-gut can be threaded rather than triangular-pointed needles ; the round needle pushes aside—all others cut.

A last point is whether the skin wound heals better under a scab or moist surface. The wound does not produce a scab as a protection but merely because it cannot evacuate its discharge ; a moist or vaselined surface allows for this.—I am, etc.,

London, April 12. J. L. AYMARD.

Whooping-cough Treated by Ether

SIR,—Fifteen years ago I had to treat a severe case of whooping-cough, and after a preliminary failure with the usual measures I gave the child daily injections of ether, with remarkable results. I may add that the patient thought the remedy worse than the disease. My brother, Dr. Edward Milton, treated several of his patients on the same lines with equally good results, but unfortunately had two mishaps with broken hypodermic needles, one of which had to be removed by operation. In spite of this the mother of that particular child begged him to continue the treatment, as it was so markedly beneficial. These two accidents led me to experiment with ether given orally, and the results have been so good that since then I have never used any other form of treatment. My brother tells me that in the case of babies whose movements can be easily controlled he still gives daily intramuscular injections of 5 minims of ether, and that not infrequently a week's treatment practically cures the condition.

With ether given orally I find that in the great majority of cases, provided there are no complications such as bronchitis or bronchopneumonia present when beginning treatment, the disease is subdued in three weeks. For a day or two there may not be any marked change, for whooping-cough has a certain momentum which cannot be immediately checked, but after that improvement is rapid and continuous, the paroxysms becoming less in frequency and severity until they cease altogether. In most cases I find an entire absence of physical deterioration, appetite and bodily vigour being well maintained. Occasionally I notice that the respiration is rather " bubbly " during the treatment, but I disregard this, as it never causes distress and does no harm. In two of my cases I found the treatment useless, but both of these children already had diffuse bronchitis, and were handi-

capped by insufficient food, warmth, etc., owing to the fact that their father was out of work. I had to send them into hospital, and I believe that one of them died.

Ether is unpleasant, but children will take it readily if it is dispensed with a pleasant vehicle. I usually employ a preparation called "Mist. tam. co. rub. infans," and also add tincture of quillaia, as I think it helps to emulsify the ether and delay its separation. The dose of ether is from 2 to 4 minims, and I order it to be given every two hours. In my public assistance work I have had to use a vehicle that any and every chemist stocks, and I have found that syrup. simplex gives equally good results and children take it willingly. In the case of very young children I keep to the smaller dose, but in others I increase it slowly to 4 minims. I warn parents to keep the mixture in a cool spot, the bottle tightly corked, and to avoid proximity to a naked light or radiator when pouring out a dose.

I commend this treatment as being effective, inexpensive, and pleasant. The ingredients are to hand in every dispensary, and the prescription in its simplest form consists of ether, 2 minims; tincture of quillaia, 1 minim; syrup. simplex, 30 minims; with water to 60 minims. This represents a single dose, to be taken every two hours.—I am, etc.,

Eltham, S.E.9, April 7. WILLIAM T. MILTON.

Pneumonitis

SIR,—Considering the present evidence, surely it would be better to regard the cases of "pneumonitis" as atypical forms of pneumonia. What is lobar pneumonia but a form of "pneumonitis"? Until one of these patients dies and furnishes a specific pathological picture the term "pneumonitis" will remain a vague theoretical designation of very little value. Dr. C. Hardwick (*Journal*, April 9, p. 815) says, "It is surely time we ceased classifying under the term 'pneumonia' illnesses differing widely in their course and final outcome." First, the cases described are not so widely different from pneumonia; secondly, every physician has seen cases differing widely in "course and final outcome" which were undoubtedly cases of pneumonia. It is the underlying pathology which is of importance in such a classification. An apparent pneumonic reaction has been observed near an area of bronchiectasis. In a short paragraph Dr. A. Morton Gill (March 5, p. 504) describes this condition as a secondary form of "pneumonitis." However, he appears to have omitted a lipiodol examination in any of his primary cases, and has thus failed to exclude a bronchiectatic factor in these cases. The term "pneumonitis," as used in the current literature, appears to be an unnecessary and misleading addition to the already cumbersome vocabulary of medicine.—I am, etc.,

Homerton, E.9, April 12. R. B. HEISCH.

Fracture of the Neck of the Femur

SIR,—Mr. T. P. McMurray (*Journal*, February 12, p. 330) states that the success of his operation of oblique osteotomy is due to the use of the same principle as is employed in the Whitman and Smith-Petersen manœuvres—namely, the forcing of the two fractured surfaces closely together. I would suggest that if figure 2 in his article is not merely a diagram but represents the actual state of affairs there may be another explanation. This figure shows the callus thrown out from the surface of the lower fragment of the shaft to be actually merging with the callus between the fractured ends of the neck. May not the explanation of union be that the fracture of the neck has been stimulated to callus formation by the presence in its immediate neighbourhood of an area of new bone formation, or even that osteoblasts from this area have actually penetrated between the fragments? If this explanation were true it would mean that the upper surface of the lower fragment was acting as a bone graft, and as a bone graft with the unique property of being able to supply the callus required.

Bone grafting in the treatment of fractures of the neck of the femur has been widely practised, but apparently it has not been successful enough and so has not become a standard operation. The great fault of solid bone grafts for fractures is that it is too much to expect that the fractured bone should deal with a huge graft when it has already shown that it is unable to unite itself. The fact that grafts often unite, however, would seem to point to the fact that the fresh bone has a stimulating effect. With the idea of increasing this stimulating effect and of making the graft a less inert piece of bone, I recently suggested in a letter to the *Medical Journal of Australia* (November 27, 1937) that the graft should be cut but not completely separated from its host. After an interval during which it was hoped that the graft would be colonized with bone-forming cells—and which was roughly guessed to be between ten and fourteen days—the graft was to be shifted. This suggestion might apply to solid bone grafts for the neck of the femur. Bone grafting of the neck of the femur, however, is not easy, and if this principle is to be applied some simpler method would have to be used. In the letter already referred to I suggested in regard to fractures of the neck of the femur that the following procedure be carried out.

A trapdoor is made in the subcutaneous wall of the tibia. The spongy bone beneath is gently broken and left *in situ*. After a suitable interval for "colonizing" a wide-bore needle is passed down so that its point lies between two fragments of the neck of the femur and its position is checked radiologically. The trap is again lifted and with a powerful syringe the bone beneath is sucked up and then injected through the needle into the space between the femoral fragments. It was also suggested that this technique could be applied to multiple subcutaneous drilling (Beck).

Since writing this letter an article by Mr. Thomas King of Melbourne has changed my ideas as to the technique of grafting in these cases. The article is on Matti's spongiosa bone transplant for ununited fractures (*Medical Journal of Australia*, March 19, 1938). The important point presented is that the bone for grafting is taken from the red spongiosa of the great trochanter. It is scraped out and when in position is gently hammered to make a packing paste. King, as a result of his study of Matti's experiments and of his own cases, is convinced not only that the greater part of the transplant lives but that it contains some unknown osteogenic stimulating substance. He reports seven succesful cases, in two of which previous bone grafting by ordinary methods had failed. I now think that the material for grafting should be taken from the red spongiosa of the great trochanter. Although King considers that the fresh spongiosa contains an abundance of bone-stimulating material, it would hardly seem logical to transplant fresh material to an area which already contains a quantity of spongiosa. I think, if there is anything in this suggestion, that the bone grafted should already contain a quantity of bone-forming cells. It has to be remembered that it must survive in a relatively avascular area, and for this reason I think it would be necessary, after cutting the trap in the trochanter, gently to break up the underlying bone and then to leave it

for an interval during which it will be "colonized" by osteoblasts. At the height of this regenerative activity, but before callus has formed, it is transplanted to its new area, where, it is hoped, it will not only continue to grow and rapidly form callus but it will stimulate the broken surfaces to a similar activity.

With regard to the technique of transferring the spongiosa, the needle could be put straight down through the soft tissues into the fractured interval with the leg in outward rotation, or else a hole could be bored up through the trochanter and neck to the fracture site and the needle inserted through this. Before insertion the spongiosa would probably have to be gently hammered into a paste, and the syringe would probably have to be constructed on the principle of a grease-gun. After grafting the leg would have to be supported by a plaster case as described by Mr. McMurray or, in the case of old and feeble patients, by a Hamilton Russell apparatus.—I am, etc.,

C. CRAIG,
Launceston, Tasmania, March 26. M.D., M.S., F.R.A.C.S.

Chronic Littritis

SIR,—In my paper on chronic littritis (*Journal*, February 26, p. 448) I wished to stress the part played by the hand syringe in the production of this condition. It would be a matter for regret, therefore, if Dr. Sydney M. Laird's difference with me as to the mechanism of this result (March 12, p. 594, and April 9, p. 816) should obscure our agreement as to the causal relation of the hand syringe. With all respect for the great authority of Georges Luys, I am not convinced by the quotations given in Dr. Laird's letter; the fact that irrigations and instillations are not effective in the treatment of chronic littritis does not prove that they do not penetrate into the glands—there is the alternative possibility that even having done so they are not effective. The argument that diuresis must lead to increased intra-urethral pressure is not self-evident, and having regard to the physiology of micturition I doubt if any marked rise in pressure does occur. Dr. Laird's experimental test of the relative pressures produced by the hand syringe and the douche apparatus is striking, but I am not sufficiently versed in physics to be able to reconcile it with the principle of the hydraulic press. The "grease-gun" used in lubricating motor cars is a hand syringe, and it certainly produces very high pressures. Does Dr. Laird think a douche would be as effective for removing cerumen from the ear or producing infiltration anaesthesia as a hand syringe?—I am, etc.,

Salford, April 10. R. C. WEBSTER.

The Dosage of Tuberculin

SIR,—It is my duty to call attention to a mistake regarding the dosage of tuberculin in the 1920 edition of *The Principles and Practice of Medicine*, by Sir William Osler and Dr. Thomas McCrae (p. 160), repeated (as I discovered only yesterday) in the eleventh edition (1930). These are the words in the edition of 1930 (p. 162):

"If into a healthy person .025 c.c. of original tuberculin is injected, there is a slight fever with a feeling of uneasiness which passes off in from twelve to twenty-four hours. If into an individual with a focus of tuberculosis doses of .015 c.c. of tuberculin are injected subcutaneously, there is an active *focal* reaction about the tuberculous lesion and a *constitutional* reaction (fever, general pains, etc.). This process, known as the 'tuberculin reaction,' is not often used now for diagnosis."

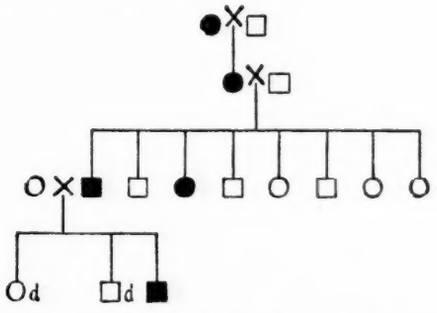
In the twelfth edition (1935) this passage is substantially the same, but it ends: "This 'tuberculin reaction' is not used now for diagnosis."

In my own experience, dated from 1891, I have used tuberculin for diagnosis, and since 1892 I have consistently given doses, not of 0.015 c.cm. T.A. or T.A.F. but one-fiftieth part of this amount, increasing the diagnostic dose cautiously and never going beyond 0.01 c.cm. T.A. or T.A.F. At my Tuberculin Clinic we are using these test doses in doubtful cases of tuberculosis in hundreds of cases every year with eminent success and no semblance of danger. But if we employed the diagnostic doses given in Osler and McCrae's textbook we should soon have to close our clinic. The proper use of tuberculin in diagnosis can be learnt in a few weeks, but the use of tuberculin in treatment needs the experience of many years. The need for experience and great caution in the therapeutic use of tuberculin is emphasized in the 1930 and 1935 editions of Osler and McCrae.—I am, etc.,

W. CAMAC WILKINSON, M.D.,
London, W.1, April 9. F.R.C.P.

Blue Eyes in Natives of Ceylon

SIR,—When in Kandy, Ceylon, recently, I happened across a guide to the temple who had deep blue eyes combined with full dark skin-colour and jet-black wavy hair. This gave him such a peculiar appearance that I asked about his blue eyes. There was no indication of racial crossing in his features, and he maintained that he was of pure Singhalese descent, Kandyan caste. Several of his ancestors and relatives had shown the same blue eyes combined with the usual dark colour of the skin. His son had blue eyes, also his mother and *her* mother, as well as one of his sisters, all his other relatives having brown eyes. Careful questioning elicited the facts which are shown in the following pedigree, where ■ = blue and □ = brown eyes.



Unfortunately, as his family lived some distance away I was unable to examine any of them. His own eyes were a clear dark blue without any visible brown pigment. This pedigree suggests a dominant blue which may have arisen as an independent mutation in Ceylon. My informant stated that he knows cases of blue eyes in two other families unrelated to his own. This interpretation seems the most likely, because if the blue is recessive the brown-eyed consorts in each of the three generations must have been heterozygous for blue. That is not impossible, but it would imply that heterozygous recessive blue is widespread in the population, whereas blue eyes are evidently a real rarity, the vast majority of the population having brown eyes. From observations of eye-colour in Kandy it was found that most of the people have very dark brown ("black") intense eyes, but a few have much paler medium-brown eyes. It may be that the "black" eyes are due to an intensifying factor which is absent from the brown eyes.

The fact that blue eyes occur in a population with black skin indicates that the factor for blue eye-colour is a mutation independent of the factors for skin-colour, although the two loci may be genetically linked. In a study of crosses between Ojibway Indians and Europeans in Northern Canada,[1] certain individuals of mixed descent were found to have medium skin-colour and blue eyes with only a little brown pigment. From these and other observations it was concluded that in these crosses certain factors for eye-colour were either independent of certain factors for skin-colour, or genetically linked with them. From the present case in Ceylon, it may be concluded that a mutation affecting eye-colour alone has probably arisen in a race having dark skin-colour.—I am, etc.,

Bureau of Human Heredity, 115, Gower Street, W.C.1. R. RUGGLES GATES.

Multiplicity of Special Diplomas

SIR,—Dr. F. Hernaman-Johnson seems to be a little inconsistent when in the *Journal* of April 9 (p. 814) he expresses his agreement with "H. M.'s" general thesis (March 26, p. 704) and then takes such pains to prove the desirability of having two examinations in radiology, one for the diploma and the other for the fellowship. Moreover, he appears to be in error when he states that the diploma may be taken within a year of graduation, as the regulations, I think, say that no registered medical practitioner may enter for the diploma course unless he has been qualified at least two years. Admittedly the present diploma is of little value, but whose fault is this? The blame must be laid at the door of those who are now awarding themselves foundation fellowships. It is they who have "already held the highest offices in the gift of their radiological colleagues" who are responsible for the low standard of the diploma examination, and all they propose to do now is to create another examination. The reasons given for doing this are puerile. What would one think of the Royal College of Surgeons if they held two examinations of differing standards for their fellowship—one for the "rabbits," who are doomed to practise in the smaller centres throughout the country, and another for the "tigers," who will be privileged to practise in London or the large provincial towns? Surely the solution is perfectly simple. All that need be done is either to abolish the diploma and retain the fellowship, or to raise the standard of the diploma to that of the fellowship and then drop the fellowship. There certainly is no advantage in retaining both examinations. I know that many are in agreement with this view.—I am, etc.,

London, W.1, April 11. F. G. NICHOLAS.

Blood Sedimentation Rate

SIR,—In the *Journal* of April 2 (p. 722) I read with great interest Dr. E. Scott's paper on the rate of sedimentation of red blood cells as a clinical test in general practice. I have used Linzenmeier's method of estimating the blood sedimentation rate in the diagnosis and prognosis of several diseases. The test was employed in cases of phlebitis complicating varicose veins or pregnancy. The rate was found to be raised in cases of septic origin and normal in simple thrombotic cases. This finding conformed to R. T. Payne's classification (*Journal*, May 2, 1936, p. 877). He considers that there are two main groups of phlebitis in varicose veins: (1) a septic bacterial phlebitis characterized by a rapidly spreading septic thrombosis; and (2) a purely thrombotic process of non-bacterial origin, secondary to changes in the damaged endothelium. Cases of phlebitis coming within an intermediate group are common in general practice. In such cases particularly I found the estimation of the blood sedimentation rate helpful. If the rate was normal an elastoplast bandage was applied to the limb and the patient allowed to walk about. If the rate was accelerated, a bandage was also applied to the limb, but the patient was kept in bed until the sedimentation rate was at or near normal. One woman, who refused to remain in bed in spite of a comparatively high rate, developed pulmonary infarction due to an embolus, and died. The test was used before beginning injection treatment of varicose veins in order to exclude the presence of sepsis, particularly where there was a history of recent phlebitis.

In pernicious anaemia the diminution in the number of red cells causes an increase in the blood sedimentation rate, which returns to within normal limits as the blood condition improves with treatment. Reichel (1935, *Klin. Woch.*, **14**, 1679) considers decrease of the rate more important in the diagnosis of a remission than the reticulocyte crisis, for the latter may be overlooked unless numerous counts are made, and occasionally a crisis may occur without being followed by a remission. The following data are from one of my cases of pernicious anaemia:

Erythrocytes	Haemoglobin	Colour Index	Blood Sedimentation Rate
1,400,000	40%	1.4	22 mm.
3,210,000	65%	1.0	15 mm.
4,820,000	90%	0.9	4 mm.

The test was found to be helpful in the diagnosis of articular and cardiac rheumatism, and, in my opinion, was more sensitive in assessing the degree of infection than were the temperature and pulse rate. The blood sedimentation rate was accelerated in all active cases and returned to normal after the acute or subacute symptoms had subsided. Thirty-six cases of fibrositis and sciatica were examined and each gave a normal rate. This finding is important in that it assists one to differentiate true rheumatic infection, possibly manifested only by a mild febrile disorder or by "growing pains" in children, from inflammation of the white fibrous tissue, which is less serious. It is of interest to note that the rate was normal in three cases of acute chorea, a condition said to be a manifestation of an active rheumatic process.

During an investigation of 108 cases of chronic chest diseases I used this test at frequent intervals on each patient. The following is a summary of the results: the blood sedimentation rate was raised in active pulmonary tuberculosis but remained normal when the infection was quiescent or of a low grade; the rate was either normal or subnormal in bronchial asthma, chronic bronchitis, bronchiectasis, and pneumonoconiosis, but was raised in the presence of secondary infection. Unfortunately the test did not help in differentiating between active phthisis and secondary infection.

In conclusion I wish to mention several diseases in which the blood sedimentation rate was usually found to be subnormal. These included allergic diseases (eczema, hay fever, bronchial asthma), whooping-cough, chronic bronchitis with much emphysema or fibrosis, congestive heart failure, and jaundice. Acceleration of the blood sedimentation rate—for example, in rheumatic carditis—may be affected by influences which retard the rate, such as congestive heart failure; therefore proper interpretation of the results is essential.—I am, etc.,

Shotts, Lanarkshire, April 10. J. A. MOORE HALL, M.D.

[1] A Pedigree Study of Amerindian Crosses in Canada. *J. roy. Anthrop. Inst.*, 1928, **58**, 511–532, Pls. 5.

Peripheral Nerve Pain of Vertebral Origin

SIR,—You have twice been so good as to discuss in the *Journal* work of mine concerned with diseases of the vertebral column (1936, **2**, 1202; 1938, **1**, 574). On the first occasion I was impressed with the competent and objective review you gave of the work which I did in collaboration with Dr. Turner. I am all the more surprised to find that the annotation on peripheral nerve pain of vertebral origin quotes one of my articles in such a way as to make it almost impossible for the reader to grasp my real meaning, and has also failed to verify the points raised.

Two instances will illustrate my meaning. First, the writer very rightly expresses his intense dislike of the term "discogenetic disease," which I have been using more recently. Most of us (including myself) would agree with him; but I do not notice that he has suggested an alternative. It would doubtless be more correct to say: "narrowing of intervertebral foramina due both to anterior subluxation of inferior articular processes and to reactive exostoses at the posterior margins of the vertebral bodies, as a result of degenerative thinning of intervertebral disks." The author failed to point out that I used the term "discogenetic," not merely for the sake of brevity, but mainly to define a common disease which, originating in the disks, leads to a distinct clinical syndrome with pathognomonic anatomical lesions, not to be confused with arthritis and spondylitis.

Secondly, it is suggested that I have given credit which should naturally go to clinical medicine to roentgenological investigation. The somewhat vague invocation of the "great clinicians of the past" (who are not named) refers, I take it, to Strümpell, Pierre Marie, and Bechterew. Had my previous article (*Ann. intern. Med.*, October, 1936) been referred to it would have been seen that full recognition for originality of observation was given to these early investigators. Their names are nevertheless carried on stereotypically from textbook to textbook, without any clear understanding of the contribution which they actually made. Professor Strümpell, whom I had the privilege of knowing, did not mention thinning of the intervertebral disks as a cause of disease in his lectures and publications. Pierre Marie specifically stated that the disks were not involved in the one case of spondylose rhizomélique, on which necropsy was performed by A. Léri. There remains Bechterew; but his findings were disproved by H. Turner, who showed that the symptoms described were in reality due to syphilis of the nervous system. It is "just too bad" that Bechterew did not receive in his time such warning as has now been given me in your annotation—namely, that in the presence of gross vertebral abnormalities nerve pain may result from some other cause. Incidentally I emphasized that gross vertebral abnormalities are less likely to induce neuritis than slight changes heretofore not demonstrable. It should be added in this connexion that none of these three clinicians tried to establish a definite and constant correlation between spinal disease and nerve pain; it was the rigidity of the spine in which they were primarily interested.

Before publishing my article I made a very careful study of the literature of the nineteenth century. Pathologists (Wenzel, 1824; Rokitansky, 1844; Beneke, 1896) did mention thinning of the disks, but they did not describe any clinical symptoms as being associated with this condition. Only the surgeon Kocher (1896), in recording one single observation, suggested that radiculitis as a result of destruction of a disk might be conceivable ("wohl denkbar"). May I therefore draw the attention of your associate to a statement made very recently by A. E. Barclay of Oxford (to whom, in the far future, reviewers will probably refer as one of the great clinicians of the past): "To accept the authority of tradition is a most comfortable way of passing through life, but it is not the way of progress."—I am, etc.,

A. OPPENHEIMER, M.D.,
Associate Professor of Roentgenology,
Chairman of the Department.
American University of Beirut,
Lebanon, March 25.

*** There is, we think, no real difference of opinion between us and Dr. Oppenheimer as to the importance of nerve symptoms of vertebral origin. Objection was raised to the term "discogenetic disease" because the symptoms of nerve irritation from compression in the intervertebral foramen may proceed from other causes than atrophy of the disk, whether that be traumatic or merely a senile change. Dr. Oppenheimer will find a full discussion of the subject in the first volume (1935) of the *Reports on Chronic Rheumatism of the British Committee on Rheumatism* (p. 128). We agree with Dr. Oppenheimer that the names of Pierre Marie, Strümpell, and Bechterew are repeated from textbook to textbook often without any evidence that their work is clearly understood, a criticism which is especially justified in the case of Bechterew. But we had in mind rather the English clinicians, such as Wilks, Hilton Fagge, and Gowers. Lastly may we assure Dr. Oppenheimer that his article was appreciated and suggest that criticism is a higher compliment than flattery.—ED., *B.M.J.*

Control of Sulphanilamide Therapy

SIR,—You have twice been so good as to discuss in the paper on the treatment of gonorrhoea with oral sulphanilamide (*Journal*, November 6, 1937, p. 905) I would like to suggest that a differential white cell count should be undertaken as a routine when treating patients with sulphanilamide.

I treated recently a young sailor who had an uncomplicated acute gonococcal infection. All the precautions mentioned in Dr. Cokkinis's article were taken. For the first six days he took orally each day 4 grammes of streptocide. On each of the next six days 1.2 grammes of prontosil album were taken. In addition he had irrigations with 1 in 4,000 potassium permanganate, three times a day for the first two days, then once a day for four days. In two days the discharge was mucoid and free from gonococci, and after one further day the discharge cleared up completely; after two months the test of cure was still negative (urethroscopy or a complement-fixation test is done). Differential white cell counts in this case were as follows:

	During Treatment			After Treatment	
	First day	Fifth day	Twelfth day	Second day	Sixth day
Total number of white cells ..	6,600	7,000	7,500	8,500	6,500
Polymorphonuclears	56%	53%	37%	53%	53%
Transitionals	3%	1%	0%	2%	4%
Lymphocytes	33%	40%	57%	40%	36%
Mononuclears	2%	2%	1%	2%	2%
Eosinophils	6%	4%	5%	3%	4%
Basophils	0.5%	0%	0%	0%	0.5%

The change in the count on the twelfth day—absence of transitionals and decrease of polymorphonuclears—made me stop the treatment at that stage.

From these examinations I concluded that though the return to a normal blood count (normal for the Tropics)

was rapid, an agranulocytosis might have developed in this case. The patient did his normal work and had no complaints, and only a mild degree of cyanosis. This case leads me to suggest that white cell counts in patients under treatment with sulphanilamide might well be undertaken as a routine so that some indication may be given of possible toxic effects before rather than after the event. —I am, etc.,

Batavia, Dutch East Indies, April 5. W. J. HOHMANN.

Treatment of Lung Abscess

SIR,—In the discussion at the Medical Society of London, reported in the *Journal* of April 9 (p. 803), on lung abscess no mention is made of prontosil as a remedy. A patient developed an abscess in the lower lobe of the right lung after tonsillectomy. The temperature was 104° F., and there was severe pain at the site of the abscess, and cough with profuse evil-smelling expectoration. After four days the temperature was normal, the pain had disappeared, and expectoration was slight and not malodorous. Prontosil album, 15 grains three times a day, was continued for about a week, then gradually reduced, and finally discontinued after about three weeks. Slight cough with occasionally a little inspissated mucus persists, but the patient feels, eats, and sleeps normally, and is putting on weight.—I am, etc.,

Co. Donegal, April 14. C. E. R. GARDINER.

Chemotherapy of Virus Diseases

SIR,—We have read with considerable interest the letters of Drs. G. M. Findlay and F. O. MacCallum, and Drs. A. B. MacIntyre and R. F. Montgomerie in the *Journal* of April 16 (p. 875), on the subject of prontosil and allied drugs in virus infections.

Recently we have carried out tests to determine the effect of prontosil on experimental poliomyelitis in monkeys. Two series of experiments were performed. In the first *M. rhesus* monkeys were injected with prontosil during the incubation period. In the second the drug was administered after the onset of paresis. The drug did not appear to us to have more than a slight effect upon the course of the disease. Prophylactically it failed to prevent the development of paralysis. Therapeutically it failed to prevent a fatal result.

We have also investigated the action of prontosil on infectious myxomatosis of rabbits (due to *Virus myxomatosum*, Sanarelli). The drug was injected before the rabbits were infected with the virus, during the incubation period, and after the onset of the disease. The results were negative throughout.—We are, etc.,

A. J. RHODES.
C. E. VAN ROOYEN.

Bacteriology Department, University of Edinburgh, April 16.

Short-term Medical Commissions in the Army

SIR,—In the report of the proceedings of the Parliamentary Medical Committee in the *Journal* of April 9 (p. 821) General MacArthur was misquoted as saying that a number of the first batch of short-service officers under the Warren Fisher scheme have received permanent commissions in the R.A.M.C. Actually no such commissions have been given, and the number that will be given has not yet been decided.—I am, etc.,

Hatfield, April 19. FRANCIS FREMANTLE.

Corporal Punishment

SIR,—To me and probably to others who are officially called upon to administer justice the letter of Mr. Victor Bonney is of much interest (*Journal*, April 2, p. 757). He wisely leaves the form of punishment for wrong-doing to the justices. When the laws of a community are violated and crime has been committed the wrong-doer is liable to punishment, for the laws are a body of enactments or rules recognized to be binding upon the members, and infringement of which is harmful to the welfare of society and detrimental to its interests. The law-breaker must be deterred, and in order to do this he is rebuked or admonished. He may be deprived of liberty, he may receive a deferred sentence, or he may be fined, but sentimentalism objects to corporal punishment. Formerly he was dealt with by the infliction of pain, deemed to be equivalent to the pain of the original offence—*lex talionis*, an eye for an eye, a tooth for a tooth—which was described as retributive punishment or revenge. In the course of many centuries our penal codes have reversed all this, but punishment of the wrong-doer must be imposed in the interests of the community.

The code of honour among schoolboys to-day insists upon pain as the most forceful and efficient deterrent. The erring and wayward playmate must be punished and the honour of the school vindicated. Fear of pain has a definite disciplinary value. It is Nature's warning, and a penalty is imposed for any violation of Nature's laws. I cannot realize the difference between the deterrent effect of fear in civil and criminal acts (*Journal*, April 9, p. 817), for a hurt to the individual—when carried to its logical issue—is an injury to the State, which is composed of individuals.—I am, etc.,

London, W.8, April 10. ROBERT ARMSTRONG-JONES.

Professor Freud

SIR,—To reassure the many friends of Professor Freud in this country who might well get an alarmist idea of his condition from the description Commander Locker-Lampson gave of it in the House of Commons on April 12, I should like to say that it is an exaggeration to speak of Professor Freud "as a dying man who has been deprived of liberty." Having visited him not many days ago I can testify that he was in fairly good health for his age and still at work. As for his being deprived of liberty, he is under no police detention or surveillance, though he would, of course, like other Jews, have to fulfil various formalities if he wished to leave the country.—I am, etc.,

London, W.1, April 13. ERNEST JONES.

The Services

DEATHS IN THE SERVICES

Lieutenant-Colonel HENRY JOHN HUGH SYMONS, M.C., I.M.S., died at Indore, Central India, on April 1, aged 48. He was born on October 14, 1889, the elder son of Dr. John Symons of Penzance, was educated at King's College Hospital, where he held the post of casualty officer, and took the M.R.C.S., L.R.C.P. in 1916. He took a temporary commission as lieutenant in the Royal Army Medical Corps on August 31, 1916, and became captain after a year's service. On November 1, 1920, he was appointed to the Indian Medical Service, being ranked as captain from August 31, 1919, and attained the rank of lieutenant-colonel on February 19, 1936. He served in the war of 1914-18, and gained the Military Cross on January 1, 1918. He was serving in the Political Department in India.

Obituary

THE LATE DR. LOCKHART LIVINGSTON

Dr. W. A. Bruce Young writes from Winchester:

I saw Dr. Lockhart Livingston a few days before he died, and, with others of his colleagues, deeply regret to know he has left us. He did not seem to have ever got over the loss of his wife a few years ago, though he seemed pretty cheerful when I saw him in his room in the nursing home a fortnight ago. He was one of the fast-diminishing number of those to whom many of us engaged in public health work are so much indebted for almost pioneer work—old country practitioners who combined with their heavy day and night work the often thankless task of inculcating ideas of elementary hygiene in those for whom they worked. Dr. Livingston was honoured and respected by all who knew him, whether lay or professional, as one who happily combined those qualities so often found in our country doctors—sympathy and care for the welfare of their patients, together with a liberal and open-minded interest in things professional. He was the tried and trusted Representative of the Winchester Division for very many years, and I have reason for knowing that their interests and those of the B.M.A. as a whole were always held very dear by him; he did us good and faithful service.

Dr. RALPH CLARKE BARTLETT, who died in Southampton on March 10, had been medical officer of health for Romsey, Hants, until his retirement from practice five years ago. He was born at Brixham, Devon, and received his medical education at University College Hospital, London. In 1891 he obtained the diplomas M.R.C.S., L.R.C.P., and was later obstetrical assistant at University College Hospital. He then practised in Australia for some years, holding the post of honorary medical officer to Cowra District Hospital, New South Wales. He returned to England about forty years ago and took over a practice in Romsey. He was appointed a Justice of the Peace for the Borough, and was medical officer of health. He was a fine athlete, and organized lawn tennis tournaments. He was a member of the Southampton Medical Association, and was highly esteemed by his colleagues and large circle of patients in South Hampshire. The funeral service at Romsey Abbey on March 12 was attended by many representatives of local interests and activities. Dr. Bartlett became a member of the British Medical Association in 1919. He is survived by his widow, two sons and one daughter.

Dr. NADIR HORMAZ SHAW GANDHI died at the North Stafford Royal Infirmary on March 30. Descendant of an old Parsi family, he was born fifty-nine years ago at Neemuch in Central India, and was educated at Jodhpore and Allahabad, where he took his M.A. with honours and gold medal in chemistry while still in his eighteenth year. Securing the Sir D. J. Tata scholarship, he came to England to compete for the Indian Civil Service. He entered Caius College, Cambridge, and graduated B.A. in the Natural Sciences Tripos of 1902, but just failed to secure a place in the I.C.S., greatly to his disappointment. He then took up medicine, joined the London Hospital and took the English Conjoint diplomas in 1906. After practising in London for some time he went to Hanley and Bucknall, near Stoke. There, after some years of the "dry-bread" stage of general practice, success at last came to him, and by hard work, unstinted devotion to his duties, charm of manner, and generous nature, he built up a very large practice. For several years he held the post of M.O.H. to the Stoke Rural Council, and was a member of the British Medical Association for nearly thirty years. A year ago sorrow came to him in the sudden loss of his wife, and he met his own end with courage. Preceding the cremation at Stockport, the funeral service was conducted at the Bucknall Parish Church, which was thronged by large numbers of his patients. In the words of the vicar: "He was a man who helped people at times when they most needed help, and that well might be his epitaph."

Dr. WILLIAM CONWAY GENT, who died suddenly on April 1 at Southbourne, Bournemouth, aged 66, was educated at Magdalen College School, and then went on to study medicine at Bristol and Edinburgh, qualifying L.R.C.P. and L.R.C.S.Ed. and L.R.F.P.S.Glasg. in 1894. Dr. Gent joined the British Medical Association in 1898. In his younger days he was a keen rider to hounds and an enthusiastic golfer; latterly he had been living in retirement at Southbourne. He was married twice and leaves a widow and one son, Surgeon Lieutenant-Commander J. C. Gent, R.N.

We regret to record the death on April 3, at Hove, of Dr. ARCHIBALD DINGWALL, aged 75 years. He was born at Auchterless in 1863, and received his medical education at Aberdeen University, where he took the degrees of M.A., M.D., and C.M. He practised at Fraserborough, later in Wales, and at Clapham Park, London, finally retiring to Hove. He was gazetted Captain R.A.M.C. during the great war, serving in the Isle of Thanet area. He was especially interested in ambulance work and in work among the boy scouts. Dr. Dingwall was a member of the British Medical Association for nearly fifty years. He was also a Mason. His contributions to medical literature were few. He wrote an article in the *British Medical Journal* in 1912 on "Gastro-intestinal Haemorrhage in a Newborn Infant," and it is interesting to note that he followed with interest and assistance the career of the child referred to, who is now a medical graduate of Edinburgh University. Dr. Dingwall was of a singularly retiring disposition, loving and loved by all with whom he came in contact. He leaves a widow and two daughters. The funeral was private, and attended only by members of the family and a few old medical friends. Among the wreaths was one from the local Division of the B.M.A., "in affectionate memory of an honoured colleague."

The death took place on April 4 in Edinburgh of Dr. ANNE MERCER WATSON, who was one of the early women to enter the medical profession in Scotland. Dr. Watson practised for many years in Aberdeen, and had lived at 12, Wester Coates Avenue, Edinburgh, since her retirement. She was born at Dundee in 1862, and after a medical course at University College, Dundee, and the Medical College for Women in Edinburgh, she took the triple qualification in 1899. After periods of residentship in the Royal Infirmary of Dundee and in the Victoria Hospital for Chest Diseases at Edinburgh, she took up practice in Aberdeen, where she was in partnership with Dr. Laura Stewart Sandeman and was visiting medical officer of the Morningfield Hospital. During the war, Dr. Watson acted as an auxiliary of the R.A.M.C., being prominently identified with the recruitment of the Edinburgh section of the W.A.A.C. She had been a member of the British Medical Association since 1900, and when the Association met at Aberdeen in 1914 she acted as secretary of the Section of Medical Sociology.

Dr. FRANK BENJAMIN LEWIS, who died on April 10 at his home in London Road, St. Leonards-on-Sea, was born in Surrey on April 29, 1867, the son of Thomas Lewis, and studied medicine at the London Hospital. In 1892 he qualified with the licence of the Society of Apothecaries of London, and in the same year took the L.R.C.P. and L.R.C.S.Ed. and L.R.F.P.S.Glasg. Dr. Lewis was for

many years medical officer of health under the Hastings Rural District Council, public vaccinator, and surgeon to the Buchanan Hospital; he was also a Justice of the Peace for Sussex. He joined the British Medical Association in 1893 and served as Representative of the Hastings Division at the Annual Representative Meeting in 1919.

The death occurred on February 6 of the Danish radiologist, JENS JUUL, at the early age of 41. He had already made a distinguished career for himself, and had recently been put in charge of the radium station in Copenhagen after having served several years' apprenticeship in the radiological departments of various Danish hospitals. He was particularly interested in the treatment of cancer of the mouth, throat, and oesophagus, and had elaborated a radiological technique which now bears his name in Denmark.

Dr. J. V. HULTKRANTZ, who died on February 14 at the age of 75, was lecturing when an attack of coronary thrombosis proved suddenly fatal. He was Professor of Anatomy in the University of Uppsala from 1899 to 1930, and he published many studies, among which his investigations of the movements of the diaphragm deserve special notice. His anthropological studies were also of a high order.

The following well-known foreign medical men have recently died: Dr. OTTO NAEGELI, professor of internal medicine and director of the Medical Clinic at Zurich, and an authority on diseases of the blood, aged 67; Dr. HERMANN WALTER, professor of surgery and orthopaedics at the Wilhelm University at Münster, aged 45; Dr. HANS ALTENBURGER, extraordinary professor of neurology and head of the physiological department of the Neurological Research Institute, Breslau, aged 36; Dr. MAURICE GÉRARD, professor of clinical urology at Lille; Dr. ENRIQUE BASTOS of Lisbon, an eminent Portuguese urologist; Professor MAXIMILIAN ROSE of Vilno, author of important work on the structure of the brain; Professor GEORG DEYCHE PASCHA, formerly director of the Gülhane Hospital at Constantinople and an authority on tuberculosis and leprosy; Professor FRIEDRICH VON KRÜGER, formerly director of the department of physiological chemistry of the Physiological Institute of Rostock; Professor FRITZ KAYSER, an eminent military surgeon of Cologne, aged 71; Professor GAETANO SAMPIETRO, director of the Garmont laboratory at Rome, aged 62; Professor GUSTAVE DELAY, dean of the Lausanne Medical Faculty from 1932 to 1934; Dr. ETIENNE BARRAL, honorary professor at the Lyons Faculty of Medicine and Pharmacy and corresponding member of the Académie de Médecine; Dr. JOSEPH ARROU, an eminent Paris surgeon, aged 77; and Dr. DOMENICO TADDEI, director of the surgical clinic at Florence and joint editor with Dr. Guido Izar of *Rassegna Internazionale di Clinica e Terapia*, aged 63.

At the last quarterly court of the directors of the Society for Relief of Widows and Orphans of Medical Men, with Mr. V. Warren Low, president, in the chair, the annual report and financial statement for 1937, to be presented at the annual general meeting on May 25, was submitted and approved. During the past year £4,702 was distributed in grants to widows and orphans. There was a surplus of income over expenditure of £512, due partly to the inability of the society, owing to the increase in the number of widows in receipt of grants, to make Christmas presents to them. This year the society celebrates the 150th anniversary of its foundation, and it is suggested that a festival dinner should be held on October 27. Relief is only granted to necessitous widows and orphans of deceased members. Membership is open to any registered medical man who at the time of his election is residing within a twenty-mile radius of Charing Cross. Full particulars may be obtained from the secretary at 11, Chandos Street, Cavendish Square, W.1.

Medical Notes in Parliament

In the House of Lords on April 12 the Lords' amendments to the Infanticide Bill were reported. On April 13 the Bill was read the third time and passed.

On the same day the Royal Assent was given to the Dogs Amendment Act, the Trade Marks Act, and the Rating and Valuation (Postponement of Valuations) Bill.

The Increase of Rent and Mortgage Interest Restrictions Bill was read a third time in the House of Commons on April 13.

The Road Haulage Wages Bill, "to make provision with respect to the remuneration of persons employed in connexion with the mechanical transport of goods by road," was presented to the Commons by Mr. Ernest Brown on April 13, and read a first time.

Mr. Ernest Brown announced on April 14 that he had received the report of the Committee on Holidays with Pay. The report was unanimous, and he hoped to publish it soon after the House resumed on April 26.

Sir John Simon has appointed a committee, under the chairmanship of Mr. C. T. Le Quesne, K.C., "to examine and report on the complaints which are made as to the position of unmarried women under the Contributory Pensions Acts, and on the practical questions which would arise if the age at which old age pensions under those Acts are payable to unmarried women were lowered."

The House of Commons will reassemble on April 26, when Sir John Simon will open the Budget.

Foot-and-Mouth Disease Outbreaks

In the House of Lords on April 12 Lord NUNBURNHOLME called attention to the recent outbreaks of foot-and-mouth disease, and asked if the Government had considered taking other measures to limit transport and access to any of the infected areas.

The Earl of FEVERSHAM said it was disappointing that, after the outbreak of the disease in the South-Eastern Counties last October had been wiped out, this fresh series of outbreaks should have begun. So far as the Ministry of Agriculture could see, the outbreaks which began on March 25 had no connexion with the last epidemic. Several different types of the disease existed, but there were indications that the present epidemic had no concern with the type of the disease of last autumn and winter. At any rate, the disease in its present form appeared to take a longer time to show its presence in the animals. Another difference was that in the last epidemic a series of outbreaks appeared simultaneously in many parts of the country. The disease then arrived without warning and without evidence of definite centres from which it was spread. This led the Ministry to connect that epidemic with the migration of birds from the Continent which was going on at that time.

In the present case, although the outbreaks had occurred in widely separated places, the evidence led them to believe that infection was picked up at certain definite centres—at certain important markets in the Midlands which, taken together, distributed stock over the greater part of the country. That meant that there was a longer period of warning. In order to check any further distribution of the disease by the movement of animals and to obtain a breathing-space in which they could track down every single animal that might have been exposed to infection, the Ministry decided that they must impose a standstill order on the whole of England, with the exception of the far north and the far west.

Since the standstill order was imposed on April 4 four new centres of disease had appeared. The facts so far available indicated that the actual spread of infection would not prove so serious as at first was anticipated. If, within the next few days, this view was confirmed and the Ministry were satisfied that the spread of the disease had been checked, they anticipated that a substantial reduction of the controlled area would be possible, even if it was impossible entirely to withdraw the order covering those parts closest to the infected areas.

The Ministry were aware that in some countries on the Continent more severe restrictions had been imposed. The disease was still going on in Germany, and recently the Ministry had had information to show that it was getting worse. From March 1 to March 15 there were 25,000 outbreaks in Germany, almost twice as many as in February, and over eighty times as many as we had in the whole of the financial year 1937-8. On the Continent the slaughter policy, which we could adopt because we lived on an island, was not practicable, and infection was not wiped out as it was here.

Some of the measures advocated by Lord Nunburnholme might not be quite as effective as was suggested, and might even make the position worse. They might close down their parish life, but they could not close down the life of their birds, ground game, rodents, or vermin. The Government preferred to rely on the existing restrictions and on the slaughter policy, which strangled the disease at its birth, rather than on measures the inconvenience of which would outweigh any possible advantage which might be derived from them.

Viscount DAWSON OF PENN asked where the evidence that birds were associated with this infection was accumulating; and, broadly, what it amounted to, and whether there was any particular bird which was thought to be guilty in this respect.

The Earl of FEVERSHAM said it was thought that the outbreak in the autumn and winter, which started in East Anglia and eventually found its way to the West of England, was connected with migratory birds, which first landed on the East Coast and, in the course of their usual flight, went west. The research committee which had been set up to deal with foot-and-mouth disease had had much evidence submitted to it of that kind, and it was thought that, in particular, starlings might have been the means of carrying the virus. Up to the present he had no particular information which led him to think that this evidence supplied during the winter carried any conclusive proof. There was no evidence up to the present to show that the spread of the disease was due to migratory birds more than to the movement of any ruminating animal. The danger of the disease at the moment lay in one fact—that a large number of sheep—infected stock—were sold in Banbury Market and went in the normal course of marketing operations to all parts of England except Durham, Northumberland, Westmorland, Cumberland, Devon, and Cornwall.

Public Telephones and Tuberculous Infection

Mr. R. GIBSON asked the Postmaster-General on April 11 if experiments had been made by officials of his department to discover whether tubercle germs were present in the mouthpieces of public telephones which were cleaned and those which were not cleaned, respectively, every morning. Major TRYON replied that investigations of the kind in question had been repeatedly undertaken in this country and in the United States by independent bacteriologists at the instance of public health and other authorities. They were unanimous in concluding that the risk of tuberculous infection from the use of the telephone was negligible. This conclusion was verified by the Post Office Medical Department by means of separate research.

Medical Volunteers for A.R.P. Services

On April 12 the Prime Minister was asked by a Member what had been the response to the call for medical and nursing volunteers for the various air raid precaution services. Mr. CHAMBERLAIN replied that while figures were not available for the whole country, recruiting for first-aid work was satisfactory except in a few areas.

Mr. BULL asked on April 14 in what manner the services of doctors were being enlisted for duty in connexion with air raids; and whether those who had offered their services for this work had been allocated to specific districts. Mr. LLOYD replied that doctors would be required in connexion with air raid precautions primarily for supplementing hospital staffs. The Home Secretary was consulting the Minister of Health on the whole question of hospital provision. In the meantime the scheme for the training of doctors in anti-gas measures was proceeding steadily. Mr. SANDYS asked whether it was proposed to send a proportion of hospital patients from the more vulnerable areas to other parts of the country; and, if so, what arrangements had been made in the case of London. Mr. LLOYD replied that this was one of the matters in connexion with hospitals about which the Home Secretary was in consultation with the Minister of Health. He recalled the statement that the survey of London would be completed in a few weeks.

Voluntary Hospitals and A.R.P.

On April 12 Mr. LOUIS SMITH asked the Home Secretary whether his attention had been called to the cost which would fall on voluntary hospitals if they took, as they were expected to do, the fullest measures of air raid precautions to protect their patients and staff; whether he would make inquiries as to the views of hospital managements generally on this important issue; and whether he would then consider the grant to the hospitals of State assistance to ensure the necessary protection. Mr. GEOFFREY LLOYD, who replied, said that voluntary hospitals, like other institutions, were expected to take such measures as were reasonable in the circumstances for the protection of their patients and staff. There would, however, be some hospitals which would be used as casualty clearing stations under a local authority's scheme approved by the Home Secretary. In such cases the local authority could contribute to any special expenditure involved in their use, and such expenditure, if approved, would in proper cases rank for grant under the Acts.

Colonel NATHAN asked when the hospitals which were to be used as casualty stations would be told that that was so. He also asked, with regard to other hospitals, whether it was intended that the funds subscribed by the charitable public for the cure of disease and helping the afflicted should be used for the protection of premises against air raids. Mr. LLOYD replied that a good many hospitals would undoubtedly fall under the class which he had described. The Ministry of Health was at present engaged in a survey of the hospital accommodation of the country from the air raid precautions point of view.

Colonel NATHAN asked if Mr. Lloyd was not aware that the great voluntary hospitals of London were at present without any information at all of what was expected of them in the event of air raids, and that their efforts to obtain information from the Home Office or elsewhere had been fruitless.

Mr. LLOYD: I understand that the survey of London will be completed in a few weeks.

School Accommodation for Defectives

Mr. ELLIOT, replying to Mr. Kirkwood on April 12, said it was proposed to accommodate physically and mentally deficient children in the same building in the College Street School, Dumbarton. This arrangement was in accord with the terms of paragraph 26 of the Department's Circular No. 105, dated September 1, 1937. Arrangements would be made to keep the two classes of children separate in all respects—class tuition, meals, and recreation.

Mr. MUFF asked if Mr. Elliot was aware that such a condition of things would not be tolerated in England, and if he would endeavour to bring Scotland up to the standard of England. Mr. ELLIOT replied that Mr. Muff was under a misapprehension. It was the common practice in England and

Wales and Scotland to provide on the same site, and in many cases under the same roof, a school for mentally defective children as well as physically defective children. Replying to Mr. Westwood, Mr. Elliot said he thought that this practice was desirable in the interests of education and of the children. It was recommended in the circular issued by the Department to the education authorities.

Insulin Treatment of Schizophrenia

Sir KINGSLEY WOOD assured Mr. Rhys Davies on April 13 that he would endeavour to place in the library of the House a copy of the report of the international conference on the insulin treatment of schizophrenia. At least twelve public mental hospitals and six private institutions in this country were applying insulin treatment. Mr. RHYS DAVIES asked whether steps were being taken to train a sufficient number of medical men and mental nurses in the technique of this treatment; whether the treatment was in vogue in any private mental hospitals, and, if so, what were the results? Sir KINGSLEY replied that it was not practicable within the limits of an oral answer to deal with results of treatment and training in the technique.

Ante-natal Clinics of Local Authorities

Mr. JOEL, on April 12, asked the Minister of Health how many towns of over 20,000 people were without ante-natal clinics, and what action he was taking in each of these cases to induce the local authorities to take remedial measures. Mr. BERNAYS said that out of 230 towns with over 20,000 people, the local authorities of which were themselves welfare authorities for this purpose, only eight were without ante-natal clinics. In each of these cases either suitable alternative provision was available or ante-natal clinics were about to be established. In the case of seventy-seven towns of over 20,000 people which were included in the areas of county councils as welfare authorities, the information was not readily available, but he would obtain the information Mr. Joel desired.

Mr. LEACH asked if the Minister would undertake to publish the names of the authorities which had been so negligent.

Mr. BERNAYS: As they are about to provide ante-natal clinics I do not think that would be desirable.

Health of Ex-service Men

On April 14, on the motion that the House of Commons adjourn over Easter till April 26, Mr. F. B. SIMPSON opened a debate on the provision and administration of pensions, with particular reference to disabled ex-service men. He said that of 442,317 persons receiving disablement pensions at the end of 1937 6.4 per cent. received 100 per cent. pensions, 24.2 per cent. received 30 to 40 per cent. pensions, and 48 per cent. received pensions of 20 to 30 per cent. The British Legion had gone into the problem of the prematurely aged ex-service man. The Legion was convinced that the health of a number of ex-service men had broken down as a result of the rigours of war service, although it was impossible to substantiate by medical sequence a direct connexion with such service. Laymen were naturally convinced that there was a relation between the loss of one eye in the war and the subsequent loss of the other, but Mr. Simpson cited a case where the medical experts said there was no connexion.

Mr. BELLENGER asked for an inquiry.

Mr. KELLY drew attention to the number of ex-service men who were patients in mental hospitals. These men were mentally ill by reason of their service. The country would not deny any money required for treatment or research which might afford some hope for these men.

Sir HENRY MORRIS-JONES said men who knew about medical science were discouraged, on bringing cases to the Ministry of Pensions, at the difficulty in getting a medical review of them. He had come to the conclusion that it was almost hopeless to get a review of a case although he knew this case to be deserving of reconsideration. He asked the Minister of Pensions to set up an inquiry into the medical aspects of these cases. Medical science had changed in the last twenty years. There was, for example, a different point of view in regard to the heart and chest. Could not the Minister set up a medical committee to review aspects of the medical complaints? On surgical cases a more definite line could be taken when the wound was seen.

Mr. RAMSBOTHAM said the subject of war pensions had been discussed before Christmas. The further debate of that day had raised no fresh facts for him to answer. He was prohibited from granting entitlement to a pension unless he had a medical certificate. To ask him to indulge in more laxity was to press him to ask his medical advisers for medical certificates which might not represent the honest view of the cases. The House would never ask him to do that. He agreed that the pensioner should have the benefit of the doubt. In the past twelve months he had no such complaints as that made by Sir Henry Morris-Jones. He would be delighted to confer with Sir Henry, who must know that there was a system of independent medical experts. These were men of the highest repute in the medical profession, selected from a panel of the Royal College of Surgeons and the Royal College of Physicians. Mr. Ramsbotham added that he made constant use of them. The average age of ex-service men to-day was about 50, and men of that age were subject to ailments resulting from the wear and tear of civil life. For that reason the Ministry now got many complaints of heart trouble, rheumatism, and chest trouble, which were in exactly the same proportions among people in civil occupations. Every man suffering from disabilities which he thought due to war service was given by the Ministry of Pensions every opportunity to establish his case. The Ministry made researches with the approved societies, with chemists' shops, and with employers for evidence that the complaint had a continuous history. In many cases those links could not be discovered, and then it must be the case that a medical adviser could not say the present disability was the result of an injury or wound suffered in the war.

The House passed to discussion of other subjects and then adjourned for the Easter Recess.

Problems of Milk Supply and Consumption

Wing Commander JAMES asked Sir KINGSLEY WOOD on April 14 whether, having regard to the divergence of opinions upon matters of fact expressed by various authorities upon bovine tuberculosis, pasteurization, and other matters affecting the supply and consumption of milk, he would appoint a committee to investigate and to report upon these problems. Sir KINGSLEY replied that the facts with regard to bovine tuberculosis and pasteurization in relation to the milk supply were sufficiently well established by inquiries such as that of the Committee of the Economic Advisory Council on Cattle Diseases.

Captain HEILGERS: Is the Minister going to do anything to discourage biased propaganda on the question of pasteurization by the medical authorities?

Sir KINGSLEY WOOD: That is a different matter.

Additional Factory Inspectors

In view of the passing of the Factories Act of last session and of other developments, a scheme has been sanctioned which will have the effect of increasing the strength of the factory inspectorate by sixty-two, or about 23 per cent., over a period of three years. The scheme includes the appointment of an additional deputy chief inspector, and an additional superintending inspector to take charge of a new division which is being created in the Midlands, and the addition of three medical, one electrical, and seven engineering inspectors. This announcement was made by Mr. Lloyd on April 14.

Psychological Treatment of Prisoners.—Sir RALPH GLYN asked the Home Secretary who appointed the special committee of investigation into the psychological treatment of prisoners;

when were they appointed; and how soon it was expected that they would make their report. Sir SAMUEL HOARE replied on April 11 that no special committee had been appointed. The investigation had been carried out by Dr. W. H. de B. Hubert, assistant physician to the Department of Psychological Medicine at St. Thomas's Hospital, in co-operation with Dr. Norwood East, the Medical Commissioner of H.M. Prisons. It was hoped to issue the report in the next few months.

Manufacture of Opium Alkaloids in Government Factories in India.—On April 11 Lord STANLEY circulated a statement showing the amounts of the alkaloids of opium manufactured at the Ghazipur Opium Factory for the Government of India in the year ending September 30, 1937. They were:

Morphine Hydrochloride	Morphine Sulphate	Morphine Tartrate	Morphine Crude	Codeine
lb. oz. 153 7	lb. oz. 11 8	lb. oz. 1 8	lb. oz. 787 8	lb. oz. 210 5

Most of the exported alkaloids of opium manufactured at the Ghazipur Opium Factory of the Government of India are sold through the High Commissioner to firms in the United Kingdom. These imports are strictly controlled by the Home Office licensing system.

Investigation at Ammanford Colliery.—Earl WINTERTON, replying on April 11 to Mr. J. Griffiths, said that the inquiry into environmental conditions at the Ammanford colliery, in which inspectors of mines had assisted, was part of the investigation into chronic pulmonary disease among coal miners which was being made under the direction of the Medical Research Council. The observations at Ammanford were recently concluded, and the records were now being carefully studied. It was proposed thereafter to extend the investigation to at least one further colliery, and the whole of the data would have to be examined before any report could be prepared.

Exchequer Payments to Milk Marketing Board.—On April 12 Mr. RAMSBOTHAM informed Sir Granville Gibson that during the twelve months ended March 31 last there had been an Exchequer contribution amounting to £474,449 towards the expenses of the Milk Marketing Board in giving effect to the milk-in-schools scheme and other approved arrangements for increasing demand. In addition, during the same period, the Commissioner for the Special Areas made a grant of £4,330 towards the cost of experimental schemes for the supply of cheap milk to nursing and expectant mothers and children under school age.

Milk-borne Food Poisoning at Wilton.—On April 12 Captain ELLISTON asked the Minister of Health whether he would direct the attention of local authorities to the report of his Department on the milk-borne outbreak of food poisoning involving over 100 persons at Wilton, Wiltshire, and especially to the statement of the Chief Medical Officer that this was an example of the class of outbreak due to infection of the milk by a diseased cow; that a clean raw milk was not necessarily a safe milk; and that the only practicable way to reduce the risk of such outbreaks to a minimum was by efficient pasteurization or by some other suitable form of heat treatment. Sir KINGSLEY WOOD replied that copies of the report had been sent to the medical officers of health of all counties and county boroughs.

Health Services at Salford.—Sir KINGSLEY WOOD told Mr. Ellis Smith on April 14 that his attention had not been directed to the proposed action of the Salford City Council in closing down two wards in the Hope Hospital, the issuing of instructions to the doctors not to use certain medicines unless absolutely necessary, and the low allowances made to cover the cost of the maintenance of the nursing staff. He had seen a newspaper report which indicated that Salford City Council had under consideration proposals in regard to the Hope Hospital. He was in communication with the council in the matter.

Notes in Brief

The sewerage at the Royal Air Force station at Hemswell is a modern installation. Recent tests carried out by the Royal Air Force medical authorities of the treated effluent discharged into a stream have shown that the requirements of the Royal Commission on sewage disposal have been fulfilled and that there is no possibility of pollution from this source.

The total number of officers, nurses, and men of other ranks for whose treatment in mental institutions the Ministry of Pensions was responsible during the year 1937 was 6,015. During this period 175 patients were admitted, 136 were discharged, and there were 152 deaths.

The number of soldiers invalided from the regular army in 1937 was 1,282, the lowest total since the war, and 290 less than that for 1936.

Universities and Colleges

ROYAL COLLEGE OF PHYSICIANS OF LONDON

At a meeting of the College, held on April 11, Dr. Robert Hutchison was elected President.

Diplomas were conferred, jointly with the Royal College of Surgeons of England, on the following candidates:

OPHTHALMIC MEDICINE AND SURGERY.—G. H. Appel, A. H. Booth, D. K. Bose, G. H. Buck, E. W. B. Griffiths, S. P. Gupta, A. G. Hiremath, J. Joels, J. B. S. Karki, H. O. Little, J. Macaskill, N. C. Mandalia, J. D. Martin-Jones, T. R. Pahwa, J. B. Patrick, H. Penman, C. V. D. Rose, E. N. Rosen, R. Stuart, R. A. Syed, S. Wigoder.

MEDICAL RADIOLOGY.—D. M. Harper, T. Lodge, J. T. McGinn.

PUBLIC HEALTH.—R. R. Clipstein.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

A Council meeting was held on April 7, with the President, Sir Cuthbert Wallace, Bt., in the chair.

Professor F. Wood Jones was admitted to the Fellowship of the College.

Mr. Humphrey Nockolds, medical superintendent of Lewisham Hospital, and Mr. Mahmud Bayumi of the Egyptian University, Cairo, were elected Fellows of the College under the Charter which permits the Council to elect annually to the Fellowship, without examination, two Members of the College of twenty years' standing.

"The Pathology and Treatment of Thyrotoxicosis" was approved as the subject for the Jacksonian Prize for 1939.

Mr. H. A. T. Fairbank was appointed the first Robert Jones lecturer.

An additional final examination for the Fellowship will be held in February, 1939.

Diplomas of Fellowship were granted to John Guthrie Clothier (London), Alan Wardale (London), and Anthony Richard Kevin Kelly (Melbourne).

Diplomas in Child Health were granted, jointly with the Royal College of Physicians of London, to the following candidates:

Y. N. Ajinkya, J. Carson, Cicily M. Glennie, C. Hardwick, K. J. Jacob, S. N. Javett, Lorna D. Jones, Shireen N. Khan, Beryl J. Lawrence, R. Mowbray, A. P. M. Page, B. O. Quin, T. A. Ratcliffe, C. W. Ross, N. C. H. Rustomjee, M. Schlaff, Emily L. Simon, W. McL. Smithers, N. Subhie, M. Toohey, Kathleen M. Winning, Eluned Woodford-Williams, Winifred F. Young.

The following hospital was recognized under paragraphs 21 and 23 of the F.R.C.S. Regulations: Stockport Infirmary (resident surgical officer and house-surgeon attached to the general wards).

No. 14

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended April 9, 1938.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for : (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland. Median values for the last 9 years for (a) and (b).

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for : (a) The 125 great towns (122 in 1937) in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns (9 in 1937) in Northern Ireland.

A dash — denotes no cases ; a blank space denotes disease not notifiable or no return available.

Disease	1938					1937 (Corresponding Week)					1929-37 (Median Value Corresponding Weeks)	
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)	(a)	(b)
Cerebrospinal fever	41	9	11	1	—	30	7	14	2	—		
Deaths		2	—				—	5				
Diphtheria	1,351	162	179	74	25	942	114	188	57	33	1,011	147
Deaths	44	7	4	3	1	31	9	4	7	1		
Dysentery	87	20	59		—	18	1	7		—		
Deaths			1	—	—			2	—	—		
Encephalitis lethargica, acute	9	—	—		—	4	—	—		—		
Deaths		—	—				3	2				
Enteric (typhoid and paratyphoid) fever	17	2	2	4	2	21	1	4	2	3	28	—
Deaths	—	—	—	—	—	2	—	—	—	—		
Erysipelas			63	6	4			72	8	3		
Deaths		—	1				1	4				
Infective enteritis or diarrhoea under 2 years												
Deaths	50	14	6	1	2	54	15	8	4	4		
Measles			1,044		30*			231		1		
Deaths	56	15	23	—	3	14	—	1	2	—		
Ophthalmia neonatorum	103	9	37		—	92	7	31		1		
Deaths												
Pneumonia, influenzal §	1,086	93	8	7	2	1,464	117	16	1	7	1,410	147
Deaths (from Influenza)	56	8	3	—	2	112	19	5	3	2		
Pneumonia, primary			167	14				235	15			
Deaths		26		13	7		24		29	17		
Polio-encephalitis, acute	2	—				—	—		•			
Deaths		—					—					
Poliomyelitis, acute	5	—	—		—	1	—	1		—		
Deaths		—	—				—	—				
Puerperal fever	5†	5	9	3	—	53	2	15	2	—		
Deaths		1‡					1‡					
Puerperal pyrexia	194	17	16		1	124	20	17		1		
Deaths												
Relapsing fever	—	—	—		—	1	—	—		—		
Deaths			—					—				
Scarlet fever	1,990	191	348	74	60	1,643	185	337	99	25	2,101	240
Deaths	5	—	2	1	—	6	—	2	2	—		
Small-pox	—	—	—		—	—	—	—		—		
Deaths	—	—	—	—	—	—	—	—	—	—		
Typhus fever	—	—	—	—	—	—	—	—	—	—		
Deaths	—	—	—	—	—	—	—	—	—	—		
Whooping-cough			42		4			926		11		
Deaths	20	3	2	2	1	32	11	26	3	—		
Deaths (0-1 year)	352	65	89	29	23	514	75	86	41	21		
Infant mortality rate (per 1,000 live births)	59	53				85	62					
Deaths (excluding stillbirths)	4,545	900	609	177	150	5,697	1,116	673	248	176		
Annual death rate (per 1,000 persons living)	11.2	11.3	12.4	12.0	13.3	14.1	13.9	13.8	16.9	16.8		
Live births	6,882	1,261	933	294	248	7,422	1,383	986	391	280		
Annual rate per 1,000 persons living	16.9	15.9	19.0	19.9	22.0	18.4	17.2	20.2	26.7	26.8		
Stillbirths	285	44				258	38					
Rate per 1,000 total births (including stillborn)	40	34				34	27					

* 30 cases in Belfast alone.

† After October 1, 1937, puerperal fever was made notifiable only in the Administrative County of London.

‡ Deaths from puerperal sepsis.

§ Includes primary form in figures for England and Wales, London (administrative county), and Northern Ireland.

EPIDEMIOLOGICAL NOTES

Enteric Fever

During the week under review 2 cases of enteric fever were notified in Cardiff; these belong to an outbreak of paratyphoid fever in which, at the time of going to press, there have been 7 cases, 4 in children and 3 in adults. So far the cause of the outbreak has not been ascertained.

Diphtheria and Scarlet Fever

In England and Wales the decline in the incidence of diphtheria and scarlet fever continues; both diseases are still more prevalent than they were last year, but whereas the incidence of diphtheria is higher than in the previous nine years that of scarlet fever is lower. On the other hand, the London figures for both diseases show a slight increase over those for the previous week; as in England and Wales, diphtheria is more prevalent and scarlet fever less prevalent than in the last nine years. In Scotland, Eire, and Northern Ireland increases are recorded during the week, with the exception of diphtheria in the last-named country, in which 25 cases were notified compared with 38 in the previous week.

Measles and Whooping-cough

In the 125 Great Towns in England and Wales there were 56 deaths from measles, compared with 38 in the previous week; of these 15 occurred in London, 4 in Manchester, and 3 each in Barnsley, Reading, and Salford. The prediction made last week that measles is on the wane in London is confirmed by the figures for the week under review: 1,895 cases were reported from the L.C.C. elementary schools compared with 2,095 in the previous week, and the average daily admissions to the L.C.C. fever hospitals dropped from 92 to 78. The number of cases of measles under treatment in these hospitals on Friday, April 8, was 2,241 compared with 2,339 on April 1. On the same date there were in the L.C.C. hospitals 1,160 (1,128) cases of diphtheria, 843 (838) cases of scarlet fever, and 291 (312) cases of whooping-cough. The figures in parentheses refer to the numbers recorded in the previous week. Notifications in the eleven metropolitan boroughs in which measles is notified were, for the week ended April 9, 833 (1,113), distributed as follows: Battersea 128 (144), Bermondsey 88 (76), Finsbury 27 (30), Fulham 41 (77), Greenwich 99 (136), Hampstead 55 (47), Lambeth 188 (264), St. Pancras 110 (123), Shoreditch 51 (35), Southwark 115 (124), Stepney 51 (57). The figures in parentheses denote the numbers in the previous week. In Scotland 1,044 cases of measles were reported compared with 1,421 in the previous week: the figures for Glasgow were 549 (692), for Dundee 179 (224), Aberdeen 81 (246), and Paisley 42 (29). During the week under review there were in the principal towns in Scotland 23 deaths from measles compared with 19 in the previous week: of these 16 occurred in Glasgow, 5 in Dundee, 1 in Edinburgh, and 1 in Ayr. In Northern Ireland there were 30 cases of measles (all in Belfast) compared with 80 in the previous week, and 3 deaths (all in Belfast), a decrease of 5 on the previous week. There were no deaths from measles in Dublin; in the previous week there were 2.

Compared with last week there were fewer deaths from whooping-cough in England and Wales, London, Eire, and Scotland, while in Northern Ireland the same figure, 1, was recorded. Whooping-cough mortality was much lower in England and Wales and in Scotland than in the corresponding week last year.

The Ministry of Health announces that the Committee of Inquiry into the Anti-Tuberculosis Service in Wales and Monmouth will resume its sittings in the City Hall, Cardiff, on Monday next, April 25, at 11 a.m.

Medical News

The King has granted Mr. Cecil Rowntree, F.R.C.S., authority to wear the Order of Officer of the Order of Leopold, conferred upon him by the King of the Belgians, and the Order of Chevalier of the Legion of Honour, conferred by the President of the French Republic.

A meeting of the Chelsea Clinical Society will be held at the Hotel Rembrandt, Thurloe Place, S.W., on Tuesday, April 26, at 8.30 p.m., when Dr. L. I. M. Castleden will open a discussion on "The Uses of Dyes in Medicine." The meeting will be preceded by dinner at 7.30 p.m.

Professor Henry Cohen will deliver the annual oration before the London Jewish Hospital Medical Society at 7, Sussex Place, N.W., on Sunday, May 1, at 8.30 p.m. His subject is "A Century Ago—A Medical Retrospect." The chair will be taken by the president, Professor Samson Wright. Admission is by ticket only, obtainable from the honorary general secretary, Dr. Max Sorsby, London Jewish Hospital, Stepney Green, E.1.

The annual meeting of the British Association for the Advancement of Science will be held this year at Cambridge, from August 17 to 24, under the presidency of Lord Rayleigh, F.R.S. The following are the section presidents: Section A, Mathematical and Physical Sciences, Dr. C. G. Darwin, F.R.S.; B, Chemistry, Professor C. S. Gibson, F.R.S.; C, Geology, Professor H. H. Swinnerton, D.Sc.; D, Zoology, Dr. S. W. Kemp, F.R.S.; E, Geography, Professor T. Griffith Taylor, D.Sc.; F, Economics, Mr. R. F. Harrod; G, Engineering, Professor R. V. Southwell, F.R.S.; H, Anthropology, Professor V. Gordon Childe, D.Sc.; J, Psychology, Dr. R. H. Thouless; K, Botany, Professor W. Stiles, F.R.S.; L, Education, Mr. John Sargent; M, Agriculture, Professor R. G. Stapledon.

Owing to the prolongation of the war in Spain the fifth congress of the Latin Medical Press, which was to have been held in Lisbon during the Easter holidays, has been postponed until next autumn, when it will be held at Lisbon from September 29 to October 2 under the presidency of Professor Reynaldos dos Santos. Further information can be obtained from the general secretary, Professor Armando Narciso, Restauradores 48, Lisbon, or Dr. Pierra, 52, Avenue de Breteuil, Paris VIIe.

In our advertisement columns this week the Corporation of London invites applications for the office of Medical Officer of Health for the Port of London. The commencing salary is £1,500 per annum, rising to £2,000 per annum.

An award of the Dr. Jessie Macgregor Prize in Medical Science will be made in July next to the applicant who presents the best record of original work in the science of medicine. Such work may be published or unpublished, but must not have been published earlier than three years prior to July, 1938. The value of the prize is about £50 and is open to medical women who are graduates in medicine of the University of Edinburgh, or who have taken the triple qualification, and who, before becoming qualified, have studied medicine for at least one year in Edinburgh. The successful applicant shall, within six months following the award, deliver a lecture to the medical profession in Edinburgh, on the subject of the work for which the prize has been awarded, such lecture to be entitled "The Dr. Jessie Macgregor Lecture." Applications marked "Dr. Jessie Macgregor Prize" must reach the Convener of Trustees, Royal College of Physicians, Edinburgh, 2, not later than June 30.

Two Sir Milsom Rees scholarships for sons of medical practitioners of £100 each to Port Regis Preparatory School, Broadstairs, have been awarded to P. Burrows, son of Dr. H. Burrows, and to P. King, son of Dr. P. A. H. King.

The Robert Jones Gold Medal and Prize of £50 of the British Orthopaedic Association for 1937 has been awarded to Mr. H. Jackson Burrows for his essay on coxa plana.

Dr. George B. Batten of Dulwich, a pioneer radiologist, and Mrs. Batten received a presentation from their medical and other friends at a reception on the occasion of their golden wedding on April 9.

The National "Safety First" Association held its annual industrial safety conference at New College, Oxford, on April 8, 9, and 10. The subjects discussed were the safety education of the new employee, the Factories Act, 1937, modern practice for fixed machine guards, and works safety propaganda. The complete proceedings, including reports of discussions, will be published shortly from the offices, Terminal House, 52, Grosvenor Gardens, S.W.1.

Dr. Richard Pfeiffer, for many years professor of hygiene at Breslau and discoverer of the influenza bacillus in 1892, celebrated his eightieth birthday on March 27.

A new French 30,000-ton ocean liner, which is to run between France and the Argentine next year, has been named *Pasteur* by Mme. Pasteur Vallery-Radot, wife of the scientist's grandson.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, W.C.1.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone, unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Secretary, B.M.A. House, Tavistock Square, W.C.1, on receipt of proofs. Authors over-seas should indicate on MSS. if reprints are required, as proofs are not sent abroad.

All communications with reference to ADVERTISEMENTS should be addressed to the Advertisement Manager. Orders for copies of the *Journal* and communications with reference to subscriptions should be addressed to the Secretary, B.M.A. House, Tavistock Square, W.C.1.

The TELEPHONE NUMBER of the British Medical Association and the *British Medical Journal* is EUSTON 2111.

The TELEGRAPHIC ADDRESSES are
EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*
SECRETARY, *Medisecra Westcent, London.*

The address of the B.M.A. Scottish Office is 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh;* telephone 24361 Edinburgh), and of the Office of the Irish Free State Medical Union (I.M.A. and B.M.A.), 18, Kildare Street, Dublin (telegrams: *Bacillus, Dublin;* telephone 62550 Dublin).

QUERIES AND ANSWERS

"Typhoid Mary"

Dr. J. D. ROLLESTON would be glad to know of any account of this celebrated carrier published after the description of her case by Major George A. Soper in the *Military Surgeon*, 1919, **45**, 1–15.

The Elder Twin

"E. H." writes: Can any reader help me to find the correct descriptive word for the elder of twins? I have searched in vain all available books of reference and have inquired in various directions, but unsuccessfully.

An Internal Sanitary Pad

"WOMAN DOCTOR" writes in reply to "G.P." (*Journal*, April 16, p. 880): Although not a gynaecologist, my observations on the internal sanitary pad may be of use to "G.P." I have found them very unsatisfactory, in that they cause a continuous feeling of fullness and stimulation in the vagina. This is particularly noticeable in the case of the nullipara with a narrow vagina. For obvious reasons these internal pads cannot be used by a virgin, as insertion would be extremely difficult, if not impossible. They also tend to encourage constipation, as the pressure on the rectum seems in some way to inhibit complete defaecation. They may be used safely, however, for a short time if some particular sports or close-fitting garment makes it specially desirable.

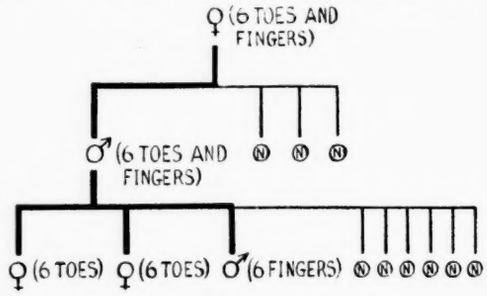
LETTERS, NOTES, ETC.

Destruction of Bugs

Dr. N. PINES (London, E.1) writes: May I mention how bugs were destroyed, nearly always successfully, in pre-war Russia? Walls were invariably stripped and whitewashed with $CaCl_2$, all cracks in them being previously washed out with kerosene and stopped with some material after that. The cracks in the floors were also washed out with kerosene and stopped after that with some material. Furniture and fittings were removed, taken to pieces if possible, liberally washed with kerosene and afterwards with boiling water and soap. Beddings and garments were disinfected in the ordinary way by formalin vapour. Bugs are very elusive, and not only the bedrooms but the whole of the premises must be carefully examined for their traces, and in cases of doubt treated in a similar way.

Polydactylism

Dr. S. HARTILL (East Cowes) writes: The following is an interesting example of supernumerary toes and fingers.



The diagram, in which N represents normal offspring, indicates quite clearly the incidence of this condition in three generations.

Treatment of Pneumonia

Dr. H. W. HALES (London, W.1) writes: I have only just seen Dr. Nott's letter in the *Journal* of January 22 (p. 203). I should like to endorse several of his statements. In my experience, limited to some seventy-odd cases, colonic lavage with potassium permanganate is the most valuable treatment ever introduced for pneumonia. I am sure that the causal factor in pneumonia is intestinal toxaemia, and that the chief cause of death from this complaint is this same toxin acting on the heart. On four occasions I have reproduced pneumonia during a course of detoxication by potassium permanganate colonic lavage, pyretic treatment, and reduced diet in patients who have had the disease on two or more occasions previously. In each case the illness only lasted twenty-four hours or so, but the signs in every instance were typical. Knowing that this statement might reasonably be questioned by the profession, I asked certain professional colleagues of mine to see the patients in question. They expressed entire agreement with my views, and registered surprise at seeing the patients sitting up in bed, breathing quietly, with half the lung solid and no sign of toxaemia. This pneumonic reaction also seems to indicate the intestinal origin of the disease. One further point. The urine of patients treated by Nott's method contains chloride; the blood chlorides remain normal, and the patients sweat throughout the disease. I feel that the chloride deficiency urine of pneumonia, and the sweating deficiency of the skin until the crisis, are produced by an intestinal toxin acting on the blood chlorides and upsetting the skin.

Medical Golf

The spring meeting of the Scottish Medical Golfing Society was held at Bramshott Golf Club on April 10, with the following results:—*Medal Round:* Dr. A. F. Adamson, 94 less 14 = 80, and Dr. Mather Thomson 90 less 10 = 80, tied for first place *Foursomes:* 1st, Dr. A. S. Paterson and Dr. E. L. Bartleman, 1 down; 2nd, Dr. D. Mackenzie and Dr. R. R. Trail, 3 down; Dr. A. J. Buchan and Dr. A. Findlay, 3 down.

Evans Sons Lescher and Webb, Ltd., have resumed publication, from their Biological Institute at Runcorn, Cheshire, of *Evans' Journal.*

POSTGRADUATE NEWS

The Fellowship of Medicine announces the following courses: psychological medicine at Maudsley Hospital, April 25 to May 28; proctology at Gordon Hospital, May 2 to 6; dermatology at St. John's Hospital, May 2 to 28; thoracic surgery at Brompton Hospital, May 16 to 20; plastic surgery at various hospitals, May 11 and 12; gynaecology at Chelsea Hospital, May 23 to June 3. Courses in preparation for the M.R.C.P. examination in July will be as follows: clinical and pathological at National Temperance Hospital, Tuesdays and Thursdays, 8 p.m., May 31 to June 16; chest diseases at Brompton Hospital, Tuesdays and Fridays, 5.15 p.m., May 30 to June 24; heart and lung diseases at London Chest Hospital, Wednesdays and Fridays, 6 p.m., June 1 to 24; neurology at West End Hospital, June 13 to 25; pulmonary tuberculosis at Preston Hall, June 25. Week-end courses, occupying the whole of a Saturday and Sunday, will be given as follows: children's diseases at Infants Hospital, April 30 and May 1; chest diseases at Brompton Hospital, May 7 and 8; general surgery at Princess Beatrice Hospital, May 14 and 15; physical medicine at St. John Clinic and Institute of Physical Medicine, May 21 and 22; obstetrics at City of London Maternity Hospital, June 11 and 12; radiology at Royal Cancer Hospital, June 18 and 19. The Fellowship of Medicine's dinner-dance will take place at Claridge's Hotel on May 19. All members of the medical profession, both at home and from over-seas will be welcome. Tickets can be obtained from the Fellowship of Medicine, 1, Wimpole Street, W.1, or from any member of the ladies' committee.

The Joint Tuberculosis Council announces that Dr. Peter W. Edwards, medical superintendent of the Cheshire Joint Sanatorium, is prepared to continue his series of short intensive postgraduate courses of a practical nature on modern methods of therapy in tuberculosis of the respiratory system, with special reference to collapse therapy. In the sanatorium there is abundant material for the demonstration of artificial pneumothorax and allied procedures. Methods of sanatorium administration will also be demonstrated. Dr. Edwards is prepared to hold courses from May 2 to 4, June 27 to 29, and September 26 to 28. The fee for a course is £2 7s., which includes lunch and tea at the sanatorium. All inquiries should be addressed to Dr. William Brand, honorary secretary for postgraduate courses, Joint Tuberculosis Council, 8, Christ Church Place, Epsom, Surrey.

A course of lectures on pathological research in its relation to medicine will be given in the lecture theatre of the bacteriological department of the Institute of Pathology and Research, St. Mary's Hospital, W., on Tuesdays, at 5 p.m., from April 26 to June 14 inclusive. The lectures are open to all members of the medical profession and to all students in medical schools without fee. Details will be published in the postgraduate diary column of the *Supplement* week by week.

WEEKLY POSTGRADUATE DIARY

BRITISH POSTGRADUATE MEDICAL SCHOOL, Ducane Road, W.—*Daily*, Medical Clinics, Surgical Clinics and Operations, Obstetrical and Gynaecological Clinics and Operations. *Mon.*, 2.30 p.m., Sir Edmund Spriggs, Diseases of Small and Large Intestine. *Wed.*, 12 noon, Clinical and Pathological Conference (Medical); 3 p.m., Clinical and Pathological Conference (Surgical); 4.30 p.m., Dr. C. H. Andrewes, Recent Work on Viruses. *Thurs.*, 2.15 p.m., Dr. Duncan White, Radiological Demonstration; 3.30 p.m., Mr. Victor Bonney, Malignant Neoplasms of Uterus. *Fri.*, 2 p.m., Clinical and Pathological Conference (Obstetrics and Gynaecology).

FELLOWSHIP OF MEDICINE AND POSTGRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.—*Maudsley Hospital*, Denmark Hill, S.E.: Course in Psychological Medicine. *Infants Hospital*, Vincent Square, S.W.: Sat. and Sun., Course in Children's Diseases.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.—*Daily*, Course in Anatomy and Physiology.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.—*Thurs.*, 3 p.m., Dr. Blake Pritchard, Clinical Demonstration.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—*Thurs.*, 2 p.m., Mr. H. C. Apperley, The Milk Teeth. 3 p.m., Dr. Alan Moncrieff, Causes and Diagnosis of Enlarged Cervical Glands. Out-patient Clinics, mornings, 10 a.m. to 12 noon. Ward Visits, afternoons, 2 p.m. to 3.30 p.m.

INSTITUTE OF BRITISH SURGICAL TECHNICIANS.—At Welbeck Hotel, Welbeck Street, W., *Fri.*, 8 p.m. Mr. W. H. Ogilvie, Uses of Instruments in Surgical Technique.

INSTITUTE OF PATHOLOGY AND RESEARCH, St. Mary's Hospital, W.—*Tues.*, 5 p.m., Dr. Donald Hunter, Observations on the Toxicology of Certain Compounds of Lead, Arsenic, and Mercury.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.—*Tues.*, 5.30 p.m., Dr. Paul Wood, Pericarditis.

ST. JOHN CLINIC AND INSTITUTE OF PHYSICAL MEDICINE, Ranelagh Road, S.W.—*Fri.*, 4.30 p.m., Dr. G. T. Calthrop, Radiology in Physical Medicine.

MANCHESTER ROYAL INFIRMARY.—*Fri.*, 4.15 p.m., Dr. William Brockbank, Clinical Demonstration.

DIARY OF SOCIETIES AND LECTURES

ROYAL SOCIETY OF MEDICINE

Section of Odontology.—Mon., 8 p.m. Paper by Mr. S. Wilson Charles, Developmental Movements of the Teeth. Casual Communication by Mr. G. T. Hankey, Osteitis Fibrosa—Local—of Mandible Simulating Osteogenic Sarcoma.

Section of Medicine.—Tues., 5 p.m. (Cases at 4 p.m.) Clinical Meeting at Middlesex Hospital. Cases will be shown.

Section of Epidemiology and State Medicine.—Wed., 8.15 p.m. Paper by Dr. W. A. Daley: School Life and After for the Handicapped Child.

Section of Urology.—Stockholm., Thurs. and Fri. Annual General Meeting. Election of Officers and Council for 1938–9.

BRITISH PSYCHOLOGICAL SOCIETY: MEDICAL SECTION.—At Tavistock Clinic, Malet Place, W.C., *Wed.*, 8.30 p.m., Dr. H. G. Baynes, Psychological Demonstration of the Drawings of a Schizophrenic Artist.

CAMBRIDGE MEDICAL SOCIETY.—At Addenbrooke's Hospital, Cambridge, *Fri.*, 2.30 p.m. Dr. J. D. Simpson: Concussion:

CHELSEA CLINICAL SOCIETY.—At Hotel Rembrandt, Thurloe Place, S.W., *Tues.*, Dr. L. I. M. Castleden, Uses of Dyes in Medicine. Preceded by dinner at 7.30 p.m.

MEDICO-LEGAL SOCIETY.—At 26, Portland Place, W., *Thurs.*, 8.30 p.m., Mr. William Latey, Medico-Legal Aspects of the Matrimonial Causes Act, 1937.

ROYAL INSTITUTION, 21, Albemarle Street, W.—*Fri.*, 9 p.m. Dr. R. N. Salaman, F.R.S.: The Origin of the Potato and its Influence on Man's Early Settlement in South America.

ST. JOHN'S HOSPITAL DERMATOLOGICAL SOCIETY, 5, Lisle Street, W.C.—*Wed.*, 4.30 p.m., Clinical Cases; 5 p.m., Dr. J. H. T. Davies, Minor Surgery of the Skin, with Special Reference to Biopsy.

VACANCIES

All advertisements should be addressed to the Advertisement Manager and NOT *to the Editor.*

RESIDENT POSTS

ACCRINGTON: VICTORIA HOSPITAL.—H.S. Salary £175 p.a.

ALTRINCHAM GENERAL HOSPITAL.—(1) Senior H.S. (2) J.H.S. Salaries £150 p.a. and £120 p.a. respectively.

BANGOR: CAERNARVONSHIRE AND ANGLESEY INFIRMARY.—J.H.S. (male). Salary £120 p.a.

BARNSLEY: BECKETT HOSPITAL AND DISPENSARY.—C.O. (male). Salary £250 p.a.

BEDFORD COUNTY HOSPITAL.—Second H.S. and C.O. (male, unmarried). Salary £150 p.a.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—H.S. Salary £130-£150 p.a.

BIRMINGHAM CITY.—M.O. (female) for Canwell Hall Babies' Hospital in Maternity and Child Welfare Department. Salary £250 p.a.

BIRMINGHAM: GENERAL HOSPITAL.—(1) H.S. to Gynaecological Department. (2) H.S. to Throat and Ear Department. Salaries £70 p.a. each.

BRISTOL: COSSHAM MEMORIAL HOSPITAL, Kingswood.—J.M.O. (male). Salary £100 p.a.

DEVONPORT: PRINCE OF WALES'S HOSPITAL.—J.H.S. Salary £120 p.a.

DUDLEY GUEST HOSPITAL.—(1) Surgical Officer. Salary £250 p.a. to £300 p.a. according to experience. (2) H.S. Salary £100 p.a. to £130 p.a., according to experience. Males.

DUNDEE MENTAL HOSPITAL, Westgreen.—J.A.M.O. (male). Salary £300 p.a.

EALING: KING EDWARD MEMORIAL HOSPITAL.—H.S. (male). Salary £150 p.a.

EDINBURGH: ELSIE INGLIS MEMORIAL MATERNITY HOSPITAL.—Assistant Obstetrician and Registrar (female). Salary £150 p.a.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second H.S. (male, unmarried). Salary £175 p.a.

HARTLEPOOLS HOSPITAL.—H.S. Salary £150 p.a.

HASTINGS: ROYAL EAST SUSSEX HOSPITAL.—J.H.S. (female). Salary £150 p.a.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—J.M.O. (male, unmarried). Salary £120 p.a.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) Assistant P. (2) Two Medical Assistants and Clinical Patho-

logists. (3) Assistant Surgical Officer. (4) H.S. Unmarried. Salaries £200 p.a., £125 p.a., £100 p.a., and £50 p.a. respectively.

HUDDERSFIELD ROYAL INFIRMARY.—(1) H.S. (2) H.S. for Abnormal Maternity Department. (3) H.S. for Eye, Ear, Nose and Throat Departments. Males. Salaries £150 p.a. each.

ILFORD: KING GEORGE HOSPITAL.—Assistant C.O. and H.S. (male) to Special Departments. Salary £100 p.a.

LARBERT: STIRLING DISTRICT MENTAL HOSPITAL.—J.A.M.O. (male). Salary £300 p.a.

LEEDS: GENERAL INFIRMARY.—(1) Ophthalmic Officer. (2) Aural Officer. Salaries £149 p.a. each.

LEICESTER CITY.—M.O. (male) for City General Hospital. Salary £300 p.a.

LONDON COUNTY COUNCIL.—A.M.O.s (Grade II) for (*a*) Princess Mary's Convalescent Home, Cliftonville, Margate, (*b*) St. Alfege's Hospital, Vanbrugh Hill, Greenwich, S.E., (*c*) St. Francis' Hospital, East Dulwich, S.E., (*d*) St. George in the East Hospital, Raine Street, Wapping, E., and (*e*) St. Luke's Hospital, Sydney Street, S.W. (*a*) is a female appointment only. Unmarried. Salaries £250 p.a. each.

LONDON LOCK HOSPITAL, Harrow Road, W.—M.O. (male). Salary £175 p.a.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL.—J.H.S. (male). Salary £120 p.a.

MANCHESTER CITY.—A.M.O. for Withington Hospital. Salary £200 p.a.

MIDDLESEX COUNTY COUNCIL.—Whole-time Casualty M.O. for West Middlesex County Hospital, Isleworth. Salary £350 p.a.

NEWPORT: ROYAL GWENT HOSPITAL.—(1) H.S. to Fracture and Orthopaedic Department. (2) C.O. Salaries £135 p.a. each.

NORTHAMPTON: MANFIELD ORTHOPAEDIC HOSPITAL.—M.O. (male). Salary £200 p.a.

NORTHWOOD: MOUNT VERNON HOSPITAL.—H.S. Salary £150 p.a.

NOTTINGHAM CITY.—Assistant Surgical Officers for City Hospital. Salaries £250 p.a. each.

NOTTINGHAM: GENERAL HOSPITAL.—C.O. (male). Salary £150 p.a.

OXFORD: WINGFIELD-MORRIS ORTHOPAEDIC HOSPITAL, Headington. H.S. (male). Salary £100-£120 p.a. according to experience.

PADDINGTON GREEN CHILDREN'S HOSPITAL (INC.), W.—H.S. (male, unmarried). Salary £150 p.a.

PRESTON: ROYAL INFIRMARY.—C.O. Salary £150 p.a.

ROCHDALE INFIRMARY AND DISPENSARY.—Second H.S. (male). Salary £150 p.a.

ROTHERHAM HOSPITAL.—H.P. (male). Salary £180 p.a.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Senior M.O. (male). Salary £150 p.a.

RUGBY: HOSPITAL OF ST. CROSS.—M.O. (male). Salary £100-£150 p.a.

SALISBURY: GENERAL INFIRMARY.—H.P. (male, unmarried). Salary £125 p.a.

SHEFFIELD CITY.—A.M.O. (Grade I) (male) for City General Hospital. Salary £350-£25-£450 p.a.

STAFFORDSHIRE GENERAL INFIRMARY.—Senior H.S. Salary £175 p.a.

STOCKPORT INFIRMARY.—H.S. (male, unmarried). Salary £150 p.a.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE ROYAL INFIRMARY.—Anaesthetist. Salary £150 p.a.

STOKE-ON-TRENT CITY.—M.O. (male, unmarried) for Stanfield Sanatorium. Salary £250 p.a.

STROUD GENERAL HOSPITAL.—M.O. Salary £160 p.a.

SUNDERLAND: ROYAL INFIRMARY.—J.H.S. (male). Salary £120 p.a.

SWANLEY: HOSPITAL CONVALESCENT HOME, Parkwood.—M.O. (female). Salary £200 p.a.

WEIR HOSPITAL, Grove Road, Balham, S.W.—J.M.O. (male, unmarried). Salary £150 p.a.

WORCESTER ROYAL INFIRMARY.—J.H.S. Salary £120 p.a.

NON-RESIDENT POSTS

EASTBOURNE: PRINCESS ALICE HOSPITAL.—Hon. Assistant Radiologist.

MAIDENHEAD HOSPITAL.—Hon. S. for Ear, Nose and Throat Department.

MANCHESTER ROYAL INFIRMARY.—Chief Assistant to a Surgical Unit. Salary £250 p.a.

OXFORD: RADCLIFFE INFIRMARY.—Surgical Registrar. Salary £400 p.a.

SOUTH-EASTERN HOSPITAL FOR CHILDREN, Sydenham, S.E.—Hon. Assistant S.

UNCLASSIFIED

BIRMINGHAM CITY.—M.O. (female) for Maternity and Child Welfare Department. Salary £600-£25-£700 p.a.

BRISTOL CITY AND COUNTY.—Two Whole-time Assistant M.O.H.s (one male and one female). Salaries £500-£50-£700 p.a. each.

EALING: KING EDWARD MEMORIAL HOSPITAL.—(1) Consulting Physician. (2) Second Consulting Laryngologist.

GREENOCK CORPORATION.—Assistant M.O.H. (male). Salary £500-£25-£700 p.a.

HENDON BOROUGH.—Assistant M.O.H. and Assistant School M.O. (male). Salary £600-£25-£750 p.a.

HOLLAND (LINCS) COUNTY COUNCIL.—Assistant M.O.H. (male). Salary £700-£25-£800 p.a.

HUDDERSFIELD COUNTY BOROUGH.—Assistant M.O.H. (female). Salary £500-£25-£700 p.a.

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL.—Part-time Pathologist. Honorarium £200 p.a.

LONDON CHEST HOSPITAL, Victoria Park, E.—(1) Part-time Surgical Registrar. (2) Part-time Medical Registrar. Males. Honorariums £225 p.a. and £175 p.a. respectively.

LONDON CORPORATION, Guildhall, E.C.—M.O.H. for Port of London. Salary £1,500-£2,000 p.a.

LONDON COUNTY COUNCIL.—A.M.O.s for mental health services. Salaries £470-£25-£570 p.a. each. (Female applicants to be unmarried.)

MANCHESTER ROYAL EYE HOSPITAL.—Out-patient M.O. Salary £200 p.a.

MANCHESTER ROYAL INFIRMARY.—Director of Clinical Laboratory. Salary £800 p.a.

MIDDLESEX COUNTY COUNCIL.—(1) Whole-time Assistant Dental Officer (male). Salary £500-£25-£700 p.a. (2) Visiting Dermatologist for Redhill County Hospital, Edgware. Fee £3 3s. per session.

MIDDLESEX HOSPITAL, W.—Obstetric and Gynaecological Registrar. Salary £300 p.a.

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—Whole-time Registrar to Orthopaedic Department. Salary £150 p.a.

NEWCASTLE-UPON-TYNE: UNIVERSITY OF DURHAM AND ROYAL VICTORIA INFIRMARY.—Professorship of Pathology, tenable at King's College, Newcastle-upon-Tyne, and Pathologist to Royal Victoria Infirmary, Newcastle. Salary £1,100.

PADDINGTON GREEN CHILDREN'S HOSPITAL (INC.), W.—Two Clinical Assistants to Medical Out-patients.

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford, E.—Hon. Assistant S. with charge of out-patients.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Out-patient officer. Salary £100 p.a.

ST. BARTHOLOMEW'S HOSPITAL, E.C.—Part-time Chief Assistant for *X*-ray Diagnostic Department.

STOKE-ON-TRENT CITY.—Whole-time M.O. (male) of Venereal Diseases Centre. Salary £750-£937 10s. p.a.

WAKEFIELD: WEST RIDING OF YORKSHIRE MENTAL HOSPITALS BOARD.—A.M.O. for Wakefield Mental Hospital. Salary £350-£25-£450 p.a.

WEMBLEY BOROUGH.—(1) Whole-time Assistant M.O.H. Salary £500-£25-£700 p.a. (2) Part-time Assistant M.O. Remuneration £1 11s. 6d. per session.

WEST LONDON HOSPITAL, Hammersmith Road, W.—Chief Assistant to Department for Chronic Rheumatic Diseases. Honorarium £100 p.a.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Llandrindod Wells (Radnorshire); Billingborough (Lincolnshire); Haddenham (Cambridgeshire); West Calder (Midlothian). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1, by April 26.

To ensure notice in this column advertisements must be received not later than the first post on Tuesday mornings.

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 57, 58, 59, 60, 61, 64, and 65 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 62 and 63.

APPOINTMENTS

MACKEITH, S. A., M.R.C.S., L.R.C.P., D.P.M., Honorary Consulting Physician in Charge of the Department of Psychological Medicine, Warneford General Hospital, Leamington Spa.

CERTIFYING FACTORY SURGEONS.—A. S. Beer, M.B., F.R.C.S.Ed., for the Thame District (Oxfordshire); G. S. Christie, M.B., Ch.B., for the Fordoun District (Kincardine); J. C. Christie, M.B., D.P.H., for the Perth District (Perthshire); J. H. Fisher, M.B., B.Ch., for the Abingdon District (Berkshire); J. P. Logan, L.R.C.P. and S., for the Kelvedon District (Essex); W. E. S. Moreton, M.R.C.S., L.R.C.P., for the Reynoldston District (Glamorganshire); J. T. Murphy, M.B., B.Ch., for the Cullompton District (Devonshire).

LONDON COUNTY COUNCIL.—The following appointments have been made at the hospitals indicated in parentheses. *Deputy Medical Superintendent, Grade I:* J. Jemson, F.R.C.S. (St. Alfege's). *Deputy Medical Superintendent, Grade II:* A. N. Jones, M.B., F.R.C.S. (St. Pancras). *Assistant Medical Officers, Grade I:* C. W. C. Karran, M.B. (Park); A. B. Christie, M.B., Ch.B., D.P.H. (Eastern); H. W. Hall, M.B., Ch.B., D.P.H. (Brook); H. L. Settle, M.B., Ch.B. (Grove).

BIRTHS, MARRIAGES, AND DEATHS

The charge for inserting announcements of Births, Marriages, and deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH

BENTON.—On April 11, at City Hospital, Nottingham, the wife of Dr. Sidney B. Benton, a daughter.

MARRIAGE

WARIN—BRUCE.—April 12, at Bingley, John Fairbairn Warin, M.D., Ch.B., D.P.H.Leeds, of Tadcaster, to Kathleen Simpson Bruce, M.B., Ch.B., D.P.H.Leeds, of Bingley. Future address, "Rhyddington," 271, Preston New Road, Blackburn, Lancs.